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In this report of a project on curriculum planning, a new language is developed for analyzing and describing "the curricular-instructional subsystem." Some of the data come from the author's experiences in planning and directing the Experimental Freshman-Year Program (EFP) at San Francisco State College, but most were collected at the Berkeley Center for Research and Development in Higher Education. Chapter 1 contains an extended explanation of the study's subtitle and analyzes the supersystems to which the curricular-instructional subsystem belongs. Surveying the decade 1958-68, Chapter 2 analyzes the major grounds of dissatisfaction with and describes the major trends in attempts to reform the curricular-instructional pattern. Chapter 3 describes 6 basic elements of the curricular-instructional subsystem and explores some basic relationships among them. Chapters 4 and 5 analyze 2 pivotal elements: the grading system and faculty-student interaction in the classroom. Chapter 6 summarizes the method and the findings. There are 4 appendices: 2 interviews with faculty members, a transcript of a class session (with commentary), 4 innovative curriculum models, a description of the EFT, and an analysis of the word "model." (Author/JS)

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Model Building for Undergraduate Colleges: A Theoretical Framework for Studying and Reforming the Curricular-Instructional Subsystem in American Colleges

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Berkeley, California

1969

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INTRODUCTION

In June, 1967, a few months before I began to work on the project that is reported in the following pages, I had just come out of a twelve-month experience with an experimental curriculum at San Francisco State College. I had spent three months building the model and nine months serving as director of an experimental "integrated" program for a group of fifty freshman students. The program was the realization of a new curricular model consisting of a group of interrelated urban-oriented courses, in which daily work in the community became part and parcel of required course activity. In a survey of experimental programs launched that year, Time briefly described the program, stressing its two major features: its hope "to develop cohesiveness by clustering students," and its community orientation (September 9, 1966, p. 47). Details about this experiment can be found in Appendix E.

Although I found it a creative experience to build and direct a new program, I was aware that I was involved in an activity in the field of curriculum engineering and not one in the field of curricular science. As an administrative officer in the California State College system for a number of years, I found my duties keeping me largely on the 'nuts-and-bolts' level--i.e., the technological level--of curriculum building. Yet I knew from my experience as an administrator that a continuous stream of apparently small decisions often adds up to a basic policy, and that if a practitioner's daily decisions are enformed by a framework that is built on scientific/philosophic principles, creative work bearing long-range results is possible even at the 'nuts-and-bolts' level.

The Experimental Freshman-Year Program at San Francisco State College was, in any case, a gratifying and instructive experience. Visitors came to see the program in action from as far away as the University of Minnesota and as near as the University of California; students in the program participated in several panels scheduled at educational conferences in San Francisco, among them a conference on undergraduate education in the helping services, sponsored by the Western Interstate Commission on Higher Education.

The experimental program was basically an example of the "collaborative" model, in which students took a far greater responsibility for their own education than is characteristic of the college model that is standard in this country. It is important to note that the experimental program was launched the autumn after the Experimental College at San Francisco State College had come into existence (Brann, 1966; Bass, 1967) and that it tried to apply the principles of the Experimental College to a credit program. It should be recalled that the Experimental College was a free-university-type of development on the San Francisco State College campus, essentially non-credit in nature--that is, extra-curricular in its structure. The regular curricular structure at the college displayed a few sporadic innovative features; but by the mid-Fifties (after a decade of lively experimentation) it had settled into a fairly conventional, department-oriented pattern, with little to distinguish it from the curricular design to be found at most institutions of higher learning around the country. Some departments had programs that were held in high repute, but if these programs were distinguished nationally, it was not by virtue of the design of their curricula.

By 1965, many students--probably several thousand--and as many as perhaps a fifth of the faculty, which then numbered over 1,000, were ready for something more than the traditional curricular-instructional framework. Startling developments did take place--but outside of the regular course structure.

The Experimental College was launched in 1965-66, and the following year the student who directed the Experimental College, Jim Nixon, running on a platform calling for educational innovation throughout the college, was elected president of the student body.

During this period, the vast strides in governance that had earlier taken place (e.g., student representation on all policy-making faculty and administration committees) were consolidated; but little occurred by way of curricular reform. Except for "pockets" of innovation initiated by particular faculty members in their own classes, the curricular-instructional process throughout the campus displayed the same general patterns as prevailed on most campuses in the United States. In a word, San Francisco State College reflected the same curricular-instructional failure which (as the data of Chapter 2 show) characterized the rest of American higher education in the mid-Sixties.

There seems little doubt that this failure was responsible, in part, for student unrest. At the close of the 1964-65 academic year, the year of the Free Speech Movement on the Berkeley campus, the Danforth Foundation's annual report stated: "Nearly every discussion of student unrest points out the relation of that problem to the poor teaching that is often found on college and university campuses." The general failure of the American college and its relationship to student unrest is described in another way by Donald R. Brown (1967). He begins his analysis of the situation by enumerating students' expectations when they come to college: intimate contact with faculty and peers, a sense of community, the hope for deep interpersonal communication, true intellectual stimulation. All of these conditions, Brown says, "can make for an exciting student body," but "they can also make a restless college if the institution is not ready to meet these hopes." Brown's assumption is that if students' expectations are not met through structures that are set by the faculty, then students themselves "quite naturally will seek ways of interacting that are not necessarily congruent with the purposes of the university."

The first student demonstration took place on the San Francisco State College campus in spring, 1967; though important enough to bring TV reporter Pia Lindstrom and TV cameramen to the campus, when compared to FSM events at Berkeley, it was not a very dramatic occurrence. Greater crises were to take place, however, in December of that year, and in the spring and fall-winter of 1968 (Garrity, 1968).

In the meantime, I had become convinced that the problems which were developing (and which anyone teaching on that campus knew were about to explode) could not be satisfactorily solved on the level of curriculum engineering. The curricular-instructional subsystem (to give it the technical name I use in this report) had failed in fundamental rather than superficial ways--and no amount of curriculum engineering could fix it. Adding a course in Swahili or in Black American History was not going to help--though some faculty and some students appeared to think so. But if the solutions were not to be found in curricular engineering, neither could they be found in curricular science; for such a science (as we point out in Chapter 1) did not, and does not yet, exist. Although some work--considerable work--had already been done by curriculum theorists, curricular science was still only in its beginning stages and much needed to be done. I wanted to make (if I were capable) some contribution to that effort.

Just at that time, some of the research and development staff at the Center for the Study of Higher Education were organizing a number of projects to explore organizational patterns and educational innovation in American higher education; and by the close of 1966-67, workers at CRDHE in those two areas of endeavor had joined hands and merged into a single 'program.' I was fortunate enough to be able to join the staff of that program as a visiting researcher in the autumn of 1967; at last I was able to begin to pursue the problems of model building for undergraduate colleges in a framework well above the 'nuts-and-bolts' level.

The following pages constitute my report of that pursuit. The reader will notice that while I moved 'up' from an engineering to a scientific/ philosophic level, my concerns as a former practitioner were by no means forgotten. The problems to which I address myself are both theoretical and practical, and my intended audience includes both researchers and practitioners.

The central chapters of the Report--Chapters 3, 4, and 5--are primarily theoretical in nature, presenting at a high abstraction level a model of the curricular-instructional subsystem; those chapters introduce a new framework and a new language in terms of which any specific existing curriculum can be analyzed and in terms of which new ones can be built.

While the basic purpose of those chapters is to develop a theoretical construct, many of the points made in Chapters 3, 4, and 5 are illustrated by numerous concrete examples taken directly from academic life; in addition, the five Appendices supply additional concrete, illustrative material. If a reader, for example, is looking for innovative model curricula, he will find four such models described in Appendix C--including Model J, designed for the urban community college. But such a reader must keep in mind that Appendix C still deals with these problems essentially on a technological level, and that our basic problems in curriculum planning--as in society at large--are not essentially technological.

ACKNOWLEDGMENTS

It is obvious that this report owes its life to the Center for Research and Development in Higher Education and my thanks must therefore be given first to its director, Leland L. Medsker, for having invited me to join the Center staff as a visitor. I cannot resist the opportunity to say a word here about the Center. Having worked entirely at institutions which were heavily teaching-oriented, with no released time for research, I experienced during the opening months of my CRDHE appointment something of a culture shock. The liberation and the stimulation, coming together, were almost too much. The intensity of the intellectual experience reminded me of the years I spent as a faculty member at the University of Chicago College in the late Forties.

I owe thanks to all of my colleagues at the Center and to friends outside the Center as well, but I want to mention a few by name who helped in my project directly:

- for reading an early draft of Chapter 1 and offering many constructive suggestions for revision, I wish to thank Harold L. Hodgkinson;
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Joseph Axelrod

January, 1969.

CHAPTER I

FROM FOLKLORE TO SCIENCE

SUMMARY: Chapter I consists of an extended explanation of the subtitle of this report: "A Framework for Studying and Reforming the Curricular-Instructional Subsystem." The chapter first presents a preliminary view of the six elements that constitute "the curricular-instructional subsystem." Then, it relates the curricular-instructional subsystem to the larger systems of which it is a part. Finally, it defines the terms "studying" and "reforming"--relating them to the research and development functions of the Center for Research and Development in Higher Education.

This is a report of a project on curriculum planning which I directed at the Center for Research and Development from October, 1967, to October, 1968.

The main section of the report--Part II--is in the form of a new theory. The chapters of Part II present an exposition of this new conceptual framework and attempt two other tasks in addition: a) to narrate some of the changes that took place in the analysis as I moved from stage to stage in the formulation of that theory; and b) to present data supporting the decisions that I made during the course of that formulation.

Some of the data come from my experiences during 1966-67, when I directed an experimental program for freshmen at San Francisco State College. But the bulk of the data were collected during the project year, moving hand-in-hand with the formulation of the theory. It was only after I began to formulate the theoretical framework itself that I became aware of additional kinds of data I needed, not so much to substantiate the theory as to help me refine it. In general, the data I present in this report are mainly for purposes of illustration. There is no systematic attempt to validate the conceptual framework empirically.

It will undoubtedly need to be refined further as a theoretical construct before it is ready for systematic validation.

The purpose of the project, then, to state it in its simplest terms, was to develop a new language for analyzing and describing what the subtitle refers to as "the curricular-instructional subsystem."

A COMMENTARY ON THE PHRASE "CURRICULAR-INSTRUCTIONAL SUBSYSTEM"

The reader can already surmise from the word "subsystem" the general approach I have used. It is the systems approach.

When an investigator organizes his observations in accordance with the systems approach, what he regards as a "system" and what he regards as a "subsystem" depends on where he is standing and what relationships he is examining. It is possible, for example, to see the curriculum and the instructional process each as a separate subsystem and together, in their interrelationships, as constituting the curricular-instructional system. But I have purposely chosen to see curriculum and instruction, taken together, as a single subsystem which, in its interrelationships to certain other subsystems (for example, the student culture) constitutes part of a larger system which is a college or university. That system of course, in turn, as it interrelates with other similar systems, constitutes an element in still larger systems--as will be illustrated in the section that follows.

In any case, while curriculum and instruction can be regarded as the two "dimensions" in the curricular-instructional subsystem, the vocabulary of my analysis does not actually include either the term 'curriculum' or the term 'instruction.' In my analysis, the six elements of the curricular-instructional subsystem are grouped into two categories which roughly correspond to the curricular and instructional dimensions; but I have chosen a more analytic vocabulary to label these two categories of elements. I call them "structural elements" and "implemental elements." These terms will become clear in a moment.

There are six elements in the curricular-instructional subsystem. Three of them are structural:

1. CONTENT

"Content" is the structural element constituting the kinds of knowledge being formally transmitted to the student as he moves from entrance into the system to exit--the facts/principles, the skills/abilities, the attitudes/values that a student is expected to master/acquire/internalize in order to earn a degree.

The key question for the investigator is: What principles determine a) which knowledge is included in the program, b) the order in which it is to be covered, and c) the levels of complexity to be reached.

2. SCHEDULE

"Schedule" is the structural element constituting the time-space and logistical arrangements by which groups of learners gather together with (or without) one or more college/university officers for what are called "classes," 'lectures,''seminars,' 'sessions,' 'workshops,' 'field trips,' 'conferences,' etc.,--that is, to carry out some portion of the transmittal process or to demonstrate the degree of acquisition/mastery/ internalization required for a given stage in the movement toward certification.

The key question for the investigator is: What principles determine who (and how many) get together with whom, when, how often, where, and for how long?

3. CERTIFICATION

"Certification" is the structural element constituting the complex arrangements by which students being formally educated (i.e., degree seekers) are graded periodically into categories of better or worse quality during their progress toward the degree, and finally "certified" as having fulfilled the expectations set in #1.

The key question for the investigator is: Who performs the judgments that are needed, when, and on the basis of what principles?

These three structural elements are, taken by themselves, static entities with no existential reality. They are, in other words, a set of potentials waiting to be realized. The possibilities for their realization are of course limited by the conditions under which they come to be realized. Those conditions are set by the "implemental" elements, for it is in combination with the three implemental elements that the structural elements become parts of the total dynamic process that is the curricular-instructional subsystem; it is in combination with the implemental elements that the structural elements enter the world of existence. And--as we shall see--the reverse is also the case; the implemental elements can be analyzed separately but they have no separate existence. We have, then, what is often called an "interactionist model."

There are three implemental elements in the subsystem:

4. FACULTY-STUDENT INTERACTION

"Faculty-Student Interaction" is the implemental element constituting the relationships that come into being between teacher and learner as #2, then #1, then #3 move into a state of existential reality.

The key question for the investigator is: What roles are played by teacher and learner: Do these roles change or remain relatively constant? If they change, for what reasons and under what circumstances?

5. EXPERIENCE

"Experience" is the implemental element constituting the relationships that come into being during the teaching/learning process between the student and the world of symbols, objects, and people.

The key question for the investigator is: In the realization of #1, #2, and #3, what sorts of experiences is the student expected to undergo as part of his studies? What is their nature, their range, their site? What principles determine which sorts of experiences are appropriate (and therefore the ones to be encouraged and rewarded)?

6. FREEDOM/CONTROL

"Freedom/control" is the most complex of all the elements and refers to the whole authority/responsibility syndrome.

They key question for the investigator is: In the realization of #1, #2, and #3, who has (or takes, or is given) responsibility for which decisions? On the basis of what principles? Who has (or takes, or is given) "power" over which aspects of the process? Who rewards (or punishes) whom, and for what?

The foregoing categories, introduced to the reader at this point in a preliminary way, are discussed in greater detail in Part II of this report. Only one other point is necessary now--a statement of one important principle underlying the inquiry. When an analyst uses the systems approach, the purpose of his exploration is not so much to characterize these individual elements as to delineate the interrelationships between them. The approach thus forces the investigator to ask questions about the connections between each of the elements and all five of the others. This means there are fifteen questions which, as his initial task, this analysis requires the investigator to ask. The list begins with the double-question, "What are the connections between #1 and #2 and vice-versa?" and ends with "What are the connections between #5 and #6 and vice-versa?" making fifteen in all. These questions are enumerated--with their substantive content spelled out--in Part II of the report.

SUBSYSTEM-SYSTEM-SUPERSYSTEM RELATIONSHIPS

In the preceding section, we stated that the choice of the term "system" or "subsystem" for any given set of interrelationships depends on where one is standing and what sorts of relationships he is investigating. Our focus in this report makes it reasonable to look upon a college/ university as "a system" with a variety of components or subsystems, one of which is "the curricular-instructional subsystem." But the college/ university is itself a component of larger systems. Every system imposes specific pressures and "requirements" on the subsystems of which it is constituted and, at the same time, each subset has a degree of freedom. Each illustrates relationships of reciprocity and autonomy to its coordinate supersystems. So the college/university, too, is autonomous in certain ways and is also affected by pressures and requirements impinging upon it from the larger systems of which it is a component. In turn, it translates those influences into demands it makes upon its own subsystems.

It is not the intention of this report to delve into an exploration of system-supersystem relationships in any detailed way. But in order to see the curricular-instructional subsystem in context, it is desirable to look briefly at those larger relationships; the reader will see how complex the whole is, of which this report explores but one subsystem. Indeed, the dynamics of interplay between the curricular-instructional subsystem of College X and the supersystems of which College X is inevitably a component, suggests a valuable research project for Program II at the Center for Research and Development in Higher Education. In such a project one might, for example, investigate how, through a series of pressures, the curricular-instructional sybsystem of an institution like San Francisco State College is "influenced" by the California state college system, by Western College Association, by the American Association of University Professors, by the National Student Association or

Students for a Democratic Society, by the Modern Language Association or the American Medical Association, by the network of educational foundations and governement agencies involved in higher education, by the great textbook publishers and computer manufacturers, and by American foreign policy. At the same time the investigator would wish also to establish the areas of autonomy. Such an analysis would greatly benefit curriculum planners.

But let us move back to the central component in all of this: the college/university. Its organization--its structures and functions--have come into being and are constantly being modified in order to serve its shifting goals. We shall in a moment explore the reasons why these goals are constantly shifting; but let us first ask what goals are intrinsic to the American college/university. What are its unique goals, that is, those which no other institution in the society has responsibility for?

We shall tentatively present our answer. These goals are four in number, all revolving around knowledge, and having to do with its discovery, its synthesis, its transmission, and its application.

The term "knowledge" here is to be taken in its fullest sense; it includes not merely the products of problem-solving processes but those processes themselves; and not merely the processes and their products but all possible ways of organizing experience. Hence, under this definition, art is a kind of knowledge as well as science; typing skill is a kind of knowledge as well as linguistic analysis; tolerance of ambiguity is included in the definition of knowledge as well as the batting average of every major league baseball player from 1930 to 1940; and being able to "learn" is also a kind of knowledge. When most people in the field of education use the word knowledge, they usually limit its meaning to "factual" knowledge, or to the "cognitive" domain. As my examples and definition make clear, however, that is not the intention here.

The four institutional goals intrinsic to the American college/ university are these:

#1. The discovery of new knowledge

This process has various labels. It is usually called 'research', 'basic research', or 'pure research'. It is sometimes pejoratively called 'researchism' when it consists mainly of the discovery of insignificant bits of knowledge or the pseudo-discovery of significant bits. It is often called "scholarship"; those pursuing this goal are usually referred to as "researchers" or "scholars".

#2. The synthesis of knowledge

After new knowledge is discovered (Goal #1), it must be assimilated to the total body of knowledge. The new must be added to the old; but, clearly, this is not an additive process. When the new knowledge is significant, Goal #2 demands a reinterpretation of the total body of knowledge.

It is evident that insofar as the scholar's work goes, the relationship between Goal #1 and Goal #2 demands that the latter occupy a central position. The scholar moves, as it were, from #2 to #1 and back again to #2. Thus, #2 is central.

In the academic world, we do not seem to have a special term for #2 to distinguish it from #1. Yet, clearly, they are not the same process. Those who perform the synthesis--i.e., the assimilation of the new with the old--that #2 requires, or the reinterpretation of the total body of knowledge when this is needed, are also known as "scholars."

And their activity is also often called "research," though it is clearly of a different sort than #1, in both its theoretical and practical aspects.

In the academic world, the typical kind of "research" upon which a man's reputation as a scholar depends (and upon which his promotions are based) stem primarily from activity toward #1. Publications resulting from activity directed toward #2 are usually rare; they are generally major works by major figures and enjoy the highest prestige among scholars. (It might be noted in passing that the typical "textbook" does not present a new or original synthesis but one that is old enough to have become generally accepted. This may, in part, account for the low status of textbook writing among scholars.)

#3. The transmission of knowledge in formal degree curricula

This is the so-called "teaching" goal of the American college/university. It is considered, especially at the undergraduate level, to be a significant but neglected function of higher education. (See Caffrey, 1968, for new data on this question.) The relationship between #3 and #2 is obvious; a college/university faculty member must be an excellent scholar (in sense #2) before he can be an excellent teacher (#3). Again, as in the relationship between #1 and #2, Goal #2 is central.

The distinctions made thus far permit us to postulate a typology of faculty members based on the relationships between #1 and #2 and between #3 and #2. This is given in Table 1.

#4. The application of knowledge

Institutional Goal #4 refers to the application of knowledge to problems that exist off-campus. (The term "off-campus" includes the college/university as a social institution.) Goal #4 includes the

TABLE 1

FOUR FACULTY TYPES, BASED ON RELATIONSHIPS BETWEEN INSTITUTIONAL GOALS #1, #2, AND #3

	ACTIVITY IN PURSUIT OF GOAL #1 (Discovery of new knowledge)--	ACTIVITY IN PURSUIT OF GOAL #3 (Transmission of knowledge)--
--IS BASED IN THE PURSUIT OF GOAL #2 (Synthesis of knowledge)	Type A: The Research-Scholar	Type B: The Teacher-Scholar
--IS NOT BASED IN THE PURSUIT OF GOAL #2 (Synthesis of knowledge)	Type C: The Research Non-Scholar	Type D: The Teacher Non-Scholar

transmission of knowledge to off-campus personnel who are engaged in working at those problems. In common parlance, this purpose is referred to as "community services," "applied reserach," the "development" side of "research and development," and "action research."

In the field of agriculture, Goal #4 has had a venerable tradition on the American university campus. Today the question has taken a new focus: What is the responsibility of the college/university for helping the nation and the world solve its difficult social/technological problems, e.g., deterioration of our cities, the population explosion, dysfunction in the biosphere? Alternative views on this question are in evidence everywhere in the academic world; the two essays, for example, that open the Current Issues in Higher Education volume this year (Smith, 1968) speak to this controversy directly. The controversy is over the extent to which "application" in the social sphere is a college/university responsibility; no one seriously questions the fact that this is a traditional and current college/university prupose of considerable importance.

These then are the four traditional, and virtually universal, institutional purposes that are intrinsic to the American college/university: 1) the discovery of new knowledge; 2) the synthesis of knowledge, assimilating the new to the old; 3) the transmission of knowledge to the youth of the nation through formal degree programs; and 4) the transmission/application of knowledge to problems that exist off-campus and to the personnel working on those problems.

No institution is "permitted" to maintain these four goals in any "pure" form. The supersystems, of which the American college/university is but a component, have their goals--which are different from the four just enumerated--and before the four goals that represent the intrinsic purposes of the American college/university can be translated into structures and functions on the American campus, they are "sifted" through the other sets of goals maintained by the supersystems. Only after the institutional goals have gone through that sieve and been modified, are they translated into structures and functions on the campus. Clearly, they become modified in different ways for different institutions. It depends on the kinds of interrelationships that exist between a given institution and the particular supersystems of which it is a component;

it depends on the nature of the reciprocity and autonomy.

What are these "other" goals; and who holds them?

a) First of all--there are the society's broad social goals. These include its plans and hopes for the disadvantaged, for our cities, for the hot war in Vietnam, for the cold war with the Enemy Ideology (and the Race to the Moon), for our senior citizens, for the health and welfare of the general populace, for the education of the young, etc.

Who formulates these goals? Organizations and groups who take (or are given) the responsibility to formulate them, and who have the power and means to disseminate and persuade, include the following: government agencies and government officials; politicians; the public media; appointed or self-appointed commissions; presitge citizens' groups (including college/university professors); the industrial-military complex; etc. Can these systems fruitfully be regarded as supersystems of which higher education is a component? They can; and any sound analysis would be expected to include them.

b) Aside from these broad social goals, there is another set of national goals that can and do modify the institutional goals intrinsic to the American college/university. These are the nation's goals in higher education as interpreted by organizations that have been given (or have taken) responsibility specifically for educational affairs. Examples: 1) Government and semi-governmental agencies charged with funding educational programs. 2) Educational foundations. 3) Associations of colleges and universities that purport to represent the overall interests of the higher education establishment (e.g., The American Council on

Education). 4) Consortia, associations, or official groupings of colleges and universities, representing a segment of higher educational institutions. The representation may be by type (e.g., medical schools, junior colleges, graduate schools, schools of education) by location (e.g., North Central Association), or it may be a consortium on the basis of some other principle (e.g., The California State Colleges; the Great Lakes Colleges Association). These and others of this sort constitute supersystems that also influence the individual college/university and contribute to modifying the four intrinsic institutional goals.

c) The organizations represented in category b are manifestly "non-profit" organizations. We must now consider a whole range of organizations within the world of commerce whose goals are "educational" and who take upon themselves the responsibility of sharing in national decisions about higher education. They also exert pressures, both directly and through their influence on the entire culture, on the college/university world, urging it to modify its goals in directions dictated by their commercial interests.

These are the organizations that plan campus buildings or build them; that manufacture or sell equipment and supplies used by college/university personnel; that write, manufacture, or sell the programs designed for educational media--the printing press, the computer, television, film; that write, manufacture, or sell the tests that are used to evaluate students for their entrances and exits into higher-educational institutions; etc. They constitute powerful supersystems, wielding enormous influence over the goals of the American college/university.

d) We come now to the various populations that inhabit the academic world, for these, too, have their effect on institutional goals. These are the students, the faculty, the academic deans, the officers in personnel services, the business managers, officials who may not be on the university payroll but are part of the academic community (e.g., campus ministers), and so on.

The group interests of these populations and of segments of these populations are represented by a variety of organizations. One set of Professor Z's interests may be served by the American Association of University Professors, another by the Association for General and Liberal Studies, a third by the American Association for Higher Education, a fourth by the Modern Language Association of America, a fifth by the American Council on the Teaching of Foreign Languages, a sixth by the American Federation of Teachers of Spanish, a seventh by the Linguistic Society of America, etc. Student interests are represented by a whole range of organizations; trustees, by the Association of Boards of Governors; researchers involved in institutional research, by the Association for Institutional Research--the list appears to be endless.

All of these organizations and associations that represent group interests of one of the several populations that inhabit the academic world (or a segment of that population), then, constitute still other supersystems influencing the college/university.

Under these various influences from supersystems (and from other sources as well--the local community, for example), the intrinsic goals of the American college/university are necessarily modified.

Since it is goals that create structures and functions, it is clear that as the ends become modified, the means may not be able to accommodate themselves quickly enough--or, often, may not be capable of accommodating themselves at all--to the modified ends. As the essays on organization by Roger W. Heyns and Burton R. Clark which appear in the 1968 volume of Current Issues in Higher Education (Smith, 1968) show, everywhere on our college/university campuses, there is what the experts diagnose as severe dysfunction. There is no cure for it, they tell us, but the replacement of the old organizational structures with new ones that will allow--or rather, necessitate--more efficient modes of functioning.

But, as Roger Heyns and Burton R. Clark show, a vast irony keeps us where we are. Like a healthy heart rejected by a body whose own heart can no longer serve it adequately, the college/university system rejects new structures if they come ready made. And if the attempt is made to build them up from within the system, a different obstacle may obtrude: the present structures may refuse to accommodate the very processes by which the new structures might be developed.

We are caught in structures designed for another world and for another century. They seem stubbornly to refuse our efforts to modify them. And the only movements we can make with comfort are, as Roger Heyns observes, "a mindless and inefficient stumbling from crisis to crisis," making short-run adjustments to problems as they arise.

"CURRICULAR SCIENCE" AND EDUCATIONAL INNOVATION

The ultimate purpose of this report is to affect educational practice and facilitate innovation. Even though it is an ultimate and not an immediate purpose, it is nevertheless paramount; and the subtitle of this report reflects its importance: the theory presented in Part II will not only be useful for studying the curriculum-instructional process; it will also, it is hoped, be useful in reforming it. The study thus hopes to make a dual contribution: not only to research in higher education but to development as well.

The following chapter (Chapter 2) presents evidence showing general dissatisfaction with the "standard" undergraduate curricular-instructional patterns prevalent in American colleges and universities. Dissatisfaction--both among students and faculty/administration--is particularly evident with respect to the freshman and sophomore courses of study, and with specific features of the educative process throughout the college years, for example, the standard grading system. Yet, as the evidence presented in Chapter 2 also shows, we do not seem to be able to effect lasting changes in the curricular-instructional process in spite of the attempts at "innovation" which tave taken place on most American campuses. As Warren B. Martin, of the Center for Research and Development in Higher Education, states the point, we are caught in a 'one-model box.' His studies show that even on those campuses where innovation is initiated, it appears to be extremely difficult to sustain (Martin, 1968).

Why is this so? Why is basic curricular change so impossible, once it has been initiated, to sustain? Why has "erosion" been so characteristic of curricular innovation?

A half-dozen years ago, in their essay on curriculum which appeared in The American College, Katz and Sanford (1962, p. 444) called for the development of "a curricular science"--that is, "a continuing process of theoretically guided experimentation and assessment of results, so that a cumulative curricular reform can become built into the curriculum itself." Katz and Sanford tried to explain why so very little had happened along this line up to that point. They offered two reasons; the first was that "the influence of the curriculum on students has appeared to be much less than the influence of other factors" and the second was that there is a "lack of theory that could serve as a guide for such studies" (p. 419).

I have no doubt these two reasons accounted--and still account in large measure--for the serious lacuna in research/development activities to which Katz and Sanford point. As always, where theory founded on observation and analysis does not guide the activities of a practitioner, a random accumulation of folklore does. In the field of teaching, especially on the college level, there exists a considerable body of folklore, dating back to the Mishnaic teacher-scholars of the ancient Hebrews and to Aristotle's Lyceum and Plato's Academy. And such long and rich traditions, of course, always make the reception of new modes of perceiving problems somewhat difficult.

The obstacle, indeed, is even more complex. It is generally thought that an exact language is needed--together with analytic modes and theoretical frameworks--only where a subject is being "scientifically" treated. One of the widespread notions among higher educators is that college instruction is an "art" and that each professor must find the unique modes that are right for him as an individual artist. Moreover, it is generally assumed (among those who speak of such matters but who are not in the business of thinking about them systematically) that "art" and "science" are in perfect opposition; that is, everything the one is, the other is not, and vice versa. Through such a series of false premises, the notion became widespread that the instructional process (unlike, say, the process of growing tomatoes) is not subject to systematic study or "reform" since it is a natural talent that cannot really by analyzed by a researcher's efforts or improved by an administrator's policy and practice. There are many engaged in teaching, administration, and research who do not share this view, but they have nevertheless been able to make little headway. The conventional modes of describing the curricular-instructional process--the old "language" itself--is simply not adequate for systematic and rigorous analysis.

There has been, in short--as Katz and Sanford declared--no sort of theoretical framework which could serve as an adequate guide to an investigator's observations, which would suggest to him where to look in order to discover the connections. It need hardly be pointed out here that this is how a theory--in its initial stages of development, at any rate--helps to substantiate itself while at the same time "explaining" more and more of what is observed. This, in a rough way, was how the present investigation began. The moment we conceived of a curricular-instructional system, many isolated observations and pieces of data fell into place. The "hunch" was thus strengthened: what was needed was a theoretical framework not relating to curricular problems alone, but one that would suggest analyses and descriptions (and ultimately reforms) of the curricular-instructional process--the "subsystem" seen as a single entity.

Let me pause to clarify an important point. I am not asserting that no one had ever pointed to the close connections between curriculum and instruction; I am asserting that no one has studied them. Clearly Bloom (1966, p. 217), Dressel (1965), Mayhew (1967), McKeachie (1962, 1967) and others have pointed to the intimate relationships between the content set for a course (curriculum) and the way the course is taught (instruction). But, on the whole, once the point has been made that such intimate relationships exist, these two dimensions have then been analytically separated and treated as though they were separate entities. The American College, for example, reflects this typical way of investigating the matter; in that compilation, the discussions of problems of curriculum and of instructional problems are precisely where the traditional conceptual framework leads us to expect to find them, namely, in different chapters.

Investigators have understandably followed this mode of analysis under the influence of the principle that we can understand each of various aspects of a given entity better if we separate one aspect from another by the analytic process. But the systems approach forces the investigator to take an opposite point of view. It asserts that we will understand each dimension better if we explore how they interrelate. Indeed, the hypothesis I put forward in this report holds that it is the interrelationships among the elements in the curricular-instructional system which account in large measure for the behavior of the individual elements. That is where the connections must be sought.

This new approach thus has implications for future research and how it must be done. And it has implications for program development as well;

the approach suggests that it is ineffective to have "committees on curriculum" and different "committees on instruction" responsible for decisions about aspects of what in effect is a single process--or, worse, to have committees on academic programs which take responsibility for decisions about the "paper" curriculum but assume no decision-making power over the "implemental" elements that breathe life into the paper curriculum.

FURTHER INQUIRY INTO CAUSAL RELATIONSHIPS IN THE TEACHING/LEARNING PROCESS

When a college/university faculty member is asked, in a social situation, what his line of work is, he usually does not choose simply to answer: "I am a teacher." This appears to be true, even among those college teachers who have a strong commitment to teaching--that is, who are very serious about their desire to help college students learn. One of the reasons why the college teacher replies, "I am an economist," rather than "I am a teacher" is that teaching as a profession is in a kind of limbo; it is neither quite an art, even in the way dress designing is, nor is it a science, even in the way engineering is. And as the teacher is neither artist nor scientist, then--as the modern world looks upon professionals outside the world of commerce and law--he is nothing of much consequence; he is about on a par with the minister, the social worker, or the YMCA secretary.

I have already argued that the view is simplistic which sees art and science in some sort of perfect opposition and characterizes teaching as an art. I wish now to contrast teaching with the respectable applied sciences--pharmacology, civil engineering, politics, applied linguistic science, to name several from a wide range of academic categories. In those sciences (and in most of the others--medicine or aeronautics, banking or information science), there is a fairly clear knowledge, at least on the pragmatic level, of the cause-effect relationship between certain means and certain ends. There still remains much to be discovered in those fields, obviously, but on more than merely an elementary level, cause and effect relationships have been solidly established. In the profession of helping others to learn, however, knowledge of these matters is still amazingly unsophisticated.

As we shall see in Chapter 5, it is not even true that we understand very much about how people learn single facts, or simple principles, or elementary skills. And as for the goals the most serious college faculty and administrators consider to be among the most important of all--for example, being able to feel empathy, or valuing the right of another human being to be different, or remaining rational in a crisis, or tolerating ambiguity, or becoming emotionally "integrated"--if we ask what knowledge we have about appropriate means to those ends, researchers tell us they know very little, for certain, about the means that are "effective" for teaching toward such goals.

At the same time, the practitioners in our profession--officers of administration and instruction--want to know what the connection is between what they do and what changes take place in students as a result of the college experience. But the researcher in our field is reluctant to speak about "cause and effect" relationships. Or, to put the matter more accurately, in official discussions about college students and their education, he is cautious about asserting any cause-effect relationship between any two phenomena he observes. The reason is clear: he knows how virtually impossible it is to establish empirically that X "causes" Y; no demonstration would satisfy everybody's definition of the verb "to cause." Moreover, it happens that in the world of research, a man is not over-taken to task as severely for underreading his data as he is for overreading them. Yet the fault of not going as far as your data allow may be just as grievous as going beyond them. Indeed, it can be said that the creative researcher constantly tends to overread data while the pedant tends to underread them; and as there are more pedants than creative thinkers in the world of research (as everywhere else), norms for judging the value of a man's work reflect the pedant's caution more than the creative researcher's brilliance.

Surely part of the reason for the dilemma about "causes" is that the word has such a variety of both naive and sophisticated meanings. Here is a fragment of a conversation in the hallway at the Center for Research and Development in Higher Education I overheard just last week:

RESEARCHER A: Well, so what---? Suppose you do show that if X takes place, Y always follows. That still doesn't mean that X causes Y.

RESEARCHER B: I didn't say X causes Y. I said there was "some sort of causal relationship" between them.

RESEARCHER A: Well, that's the same thing--you're just using 'researchese' instead of English.

RESEARCHER B: No, it isn't. You see---

The case under discussion was whether a certain behavior performed by an instructor, Behavior X, caused a certain response in his students, Response Y. Researcher A was saying that even if your data showed that Response Y always followed Behavior X, you still could not assert that the X was "the cause" of Y. It might happen, for example, he argued, the instructor could only perform Behavior X under Conditions A/B--and that what "caused" Response Y were Conditions A/B and not Behavior X.

Researcher B argued that everything Researcher A asserted was quite acceptable to him. Nevertheless, he could still assert, he claimed, that there was "some sort of causal relationship" between X and Y, even though X did not actually "cause" Y. Researcher B added that such an assertion, presented in a pragmatic way for the benefit of the educational practitioner was justified.

However that argument was resolved between Researcher A and Researcher B at the Center for Research and Development in Higher Education, it remains true that only rarely do researchers in higher education say anything about the causes of the phenomena they observe and describe. These cautious creatures become more anxious when the discussion moves a step further and the term "prediction" enters into the inquiry. When the question moves beyond that to the development of means of "control," matters have reached a breaking point; they excuse themselves and leave altogether.

One cannot blame the researcher for not wishing to discuss these questions except in a speculative way. But it is ironic that the very concepts the researcher today wants to avoid, happen to be the very ones--

and the only ones--that go to the center of the problems facing the practitioner in the teaching/learning process. He must judge whether he is doing as effective a job as possible. If he is not, he must try to find a way to do a better one. He cannot, however, move an inch until he has an answer to a basic question: "What are the connections between the things I do and the changes that take place (or not take place) in my students?"

And it is not enough for him to know about these matters in general, i.e., how the learning process "works" in general. The scholar who is internationally known for his treatise on the Geez language system may be tongue-tied when he is set down in the native market place; the great meteorologist may know everything about how weather "works" in general, but that may not do him any good when he must decide whether to put on his raincoat when he leaves for the weather station. The practitioner in our field faces decisions of this sort every day. He must decide now whether, in his first class tomorrow at eight o'clock, he is going to hold a formal lecture followed by a question-and-answer period, or show a film on the subject, or assign his students into "buzz" sections, or send them to the library, or off-campus altogether. There are many daily decisions, such as that one, over which he has personal control. In addition, he wants to know whether, in areas over which he personally has no direct control but where he and his colleagues as a faculty body do, he ought to join those colleagues working toward Change X or those colleagues pressing for the opposite.

I am not suggesting here that I believe the researcher is responsible for giving the answers to such questions to the practitioner. The poor researcher does not of course have them; and what he does not know he cannot be expected to pass on. But those involved in higher education research cannot then blame the practitioner for relying as heavily as he does on the commonly accepted but undemonstrated truths which have such a long tradition in higher education and have so long been entrenched in the folklore of college and university teaching. Even the administrators and faculty membets who work themselves free of these shackles are limited more or less, to trial and error as their mode of discovery. And in those efforts, as I have said, they are further limited by theoretical frameworks and sets of vocabulary that arise out of the very mythology they are seeking to escape. Indeed, when they try something "new," they often find they cannot easily use the normal language of our field to describe to others what they have done. So even the results of their trials and errors remain often purely private experiences, shared with colleagues, if at all, on the level of anecdote.

Discussions among researchers about the nature of "causality" in this context almost always mention Hume and Aristotle. Generally, after encouraging expressions of annoyance or delight at his skepticism, Hume's view of causality leaves the group quite up in the air; but for those researchers who know him, Aristotle turns out to be a kindred spirit, a real "scientist." In the second book of the Physics, he posited four ways of analyzing causes at work in nature. Two types of cause are internal and two are external (Ross, 1959, p. 74). The internal ones are matter and form. Matter is "that out of which a thing comes to be," as when we say that a statue is made out of bronze. Form is "the pattern, i.e., the formula, of what it is to be the thing in question." Example: the formula of the octave is the ratio 2:1.

As for Aristotle's other two kinds of cause--the only ones for which the word "cause" is normally used in English--these are both external. One is the change agent (the Aristotelian term is "efficient cause"), that is, the relationship between the producer of change and the thing that has been changed. Examples (Ross, p. 74): The father is the "cause" of the child. The one who advised an act is the "cause" of it. The last of Aristotle's four causes is the goal of the object or activity (the Aristotelian term is "final cause"). For example: I walk because of my health; hence health is, in this sense, the "cause" of my walking. Thus, two things may be causes of one another; for example, exercise is the cause of health (in the sense of change agent) while health is the cause of exercise (in the sense of goal).

W.D. Ross, the great Aristotle scholar whose exposition of the Aristotelian corpus has itself become a classic, states (1959, p. 75): "Of Aristotle's four causes, only two--the efficient and the final [or, in our terms, change agent and goal]--answer to the natural meaning of 'cause' in English." However, Ross suggests a way by which those of us whose concepts are limited by our language can overcome this obstacle. Ross explains (pp. 75-6), that for Aristotle, none of the four causes is sufficient to produce an event; "all four are necessary for the production of any effect." We must, he states, "think of his causes as conditions.

necessary but not separately sufficient to account for the existence of a thing; and if we look at them in this way we shall cease to be surprised that *matter* and *form* are called causes" (italics added).

Aristotle's analysis is quite contemporary, it turns out. Our researchers today--many of them, at any rate,--stress as *causes* of change in students not only certain external conditions such as a given student subculture on a campus, but also certain internal conditions, such as an entering freshman's predispositions to change. As Trent and Medsker state the point, they accepted the hypothesis at the outset (p. 256) that "much development of college students could be ascribed more to a predisposition to change than to the direct influence of college." Newcomb and Feldman make the same point (1969).

In a new book now in press, *Search for Relevance: The Odyssey of the American College in the Sixties* (Axelrod, Freedman, Hatch, Katz, and Sanford), Mervin B. Freedman analyzes the cross-currents among researchers' attempts to "explain" changes that take place among college students. There are, he points out, two groups of explanations: a) There are those that stress the influence of the campus environment during the college years, while taking into consideration the developments within the student that occurred before he entered college. b) There are those that take into consideration the enormous influence of campus environmental factors but place stress on the student's *predispositions* to change; those predispositions are set before he enters college; they serve to limit the possibilities for growth; and while they flourish in certain environments, they die in others.

Freedman's discussion of these two trends among researchers is based on a number of studies--for example, the Vassar studies in which he himself participated, Astin's studies of the early sixties (summarized in his 1968 monograph), the Stanford student development studies of Katz and associates (1968), and the Berkeley CRDHE studies of Medsker and Trent (1965) and of Trent and Medsker (1968). The conclusions of Newcomb and Feldman (1968) are also germane; these researchers in addition to their original research in this field, recently synthesized all of the research about the impact of the college experience on students. They show (1968, p. 253) how "evidence is accumulating that faculty are particularly important in influencing occupational decisions," but as for faculty impact on students outside of occupational/professional choice or such matters as going on to graduate school, this has "not yet been fully assessed empirically." That phrase is researchers' shorthand for: 'Thus far studies have not discovered any significant impact on students from faculty members; but this does not mean there is none.' Yet the evidence is apparently strong enough on the negative side to warrant the statement by Newcomb and Feldman (the fifth among their eight generalizations formulated in the last chapter, p. 303) that college faculties do not appear to be responsible for any significant part of the campus-wide impact of the college experience on students--except, they add, in those settings where the influence of faculty and of student peers reinforce one another.

Practitioners--those who are involved in planning, organizing, administering, and "doing" the job of instruction--hardly know what to make of such conclusions. They must be happy to hear that their gardens are fertile and growth-nourishing for students--when compared, at least, with the offices and factories, kitchens and street corners, in which non-college youth of college age have planted themselves. It is good to know that the college experience can make a difference and often does. On the other hand, where do the nutrients that activate the growth come from? (The growth, that is to say, that the most serious practitioners are attempting to influence--not the acquisiton of factual knowledge but the development of the total human being.) The nutrients that activate that growth are not the ones, on the whole, that administrators or faculty members bring to the garden.

Where does this leave the practitioner? About where he started. And what are the implications for the relationship between "research" and "development" in higher education? What we have been saying here implies simply that research and development constitute a single continuum and the ends of that continuum have to be brought closer together.

This is also the view of T.R. McConnell, as set forth in his Phi Delta Kappa Award Lecture, given at the 1967 meeting of the American Educational Research Association. It is often impossible, McConnell states (p. 30) to make a neat distinction between research (whether basic or applied) and development. They cannot be distinguished by the methods they use or by the attitudes of workers meeting problems in these different endeavors: "One needs to be as scientific, and can be as creative, as the other," McConnell asserts (p. 31). Above all, McConnell stresses the point that it is more than just a jump from research to improved educational practice.

AN ADDED WORD TO THE EXPLICATION OF THE TERM "REFORM": THE RELATION OF RESEARCH AND DEVELOPMENT TO MANIFEST AND LATENT FUNCTIONS

It is clear from the preceeding section that I hope to see the cyclical movement of research and development intensified--the cycle which goes from the world of the practitioner to the world of the researcher, from there to the realm of program "developer," and on back to the practitioner, with feedback all along the line. If the process is successful, there will take place some "reform" in the world of the practitioner (as well as in the worlds of researchers and developers).

The question I wish now to raise is whether we should so quickly assume that reform in higher education is desirable. There are observers of higher education in America who are persuaded that the educative function of the curricular-instructional subsystem in the standard American college/university is mythological (much like the rain-making function of the Hopi rain-dances discussed by Merton), but the curricular-instructional subsystem nevertheless has important functions of another order (precisely like the Hopi rain-dances); and--these observers warn us--we are in danger of interfering with a delicately-balanced ecological system when we try to "reform" the curriculum or the teaching process.

On this point, obviously, the would-be educational reformer must consider deeply what the sociologists refer to as "manifest" and "latent" functions. The manifest function of the Hopi rain-dance is to bring rain, but its "latent" functions contribute to group unity and identity. (See Hodgkinson's summary of Merton's analysis, 1967, p. 50.)

On one of the campuses I visited in collecting data for his project (let us call it Campus X), it became quite clear to me that one of the educative functions, referred to by faculty and students a good deal, rested in the realm of the mythical. I saw no evidence--*insofar as the curricular-instructional process was concerned*--that this function was given anything more than lip-service. Its formulation ran approximately as follows in official documents: "Develop in students respect for the uniqueness of Self and others as individuals; simultaneously develop a sense of autonomy and freedom (as befits social human beings)."

What appeared to me to motivate faculty on Campus X in their teaching duties and what lay behind the structures developed for the curricular-instructional subsystem, however, was another, latent, function, Function L. It was never formulated, of course, but if translated into words, it might read approximately as follows: "Contribute to the standardization of society."

As I observed curricular and instructional processes on Campus X, I found myself analyzing Function L into several components. Here is how I analyzed three of its subfunctions and how I analyzed the way the curricular-instructional subsystem on that campus "worked" to carry out those subfunctions through its teaching/testing and grading components. (NOTE: At the stage of my visit to Campus X, I had not yet developed the complete theoretical frame I present here in later chapters; at that time, I was using the term "teaching/testing process.")

First subfunction of Function L (Function L1): Developing (or maintaining) respect for authority

Teaching/Testing Function L1:

Faculty and administration subjected all students to repeated experiences of inconsistent and irrational decisions. They watched reactions in students. They distinguished students into four groups: those who--

A -- objected strenuously and publicly, arguing that the institution was not meeting its own criteria for both students and the outside world, namely, the criteria of consistency and rationality.

B -- shrugged their shoulders, smiled, and said, "C'est la vie!" or "Well, that's life, I guess."

C -- rationalized the irrational and inconsistent decisions into rational and consistent decisions (or accepted them as such from the outset).

D -- objected to these decisions, but in private.

Grading:

A : 0 (0 = encourage the student to leave before he can accumulate the un
needed for the degree.)
B : + (+ = encourage the student to stay.)
C : Keep watch; tentatively : +
D : Keep watch; tentatively : 0

Second subfunction of Function L (Function L2): Accepting conventions and regulations reflecting conventions

Teaching/Testing Function L2:

The administration subjected students to a large number of traditions and conventions, many of them reflected in regulations--both unwritten and written. Some of the regulations (both of the written and unwritten variety) were regularly enforced, others sporadically enforced, and many totally unenforced.

The administration watched student behavior. They distinguished students into four groups: those who--

A -- followed all conventions and regulations (written and unwritten) unquestioningly.

B -- determined which conventions were backed by authority expectations on a behavioral level and which demanded merely periodic verbal commitment, which were enforced and which were not; and then followed only conventions and regulations that were accompanied by behavioral expectations *and* enforcement--violating others whenever necessary or desirable, *but* always surreptitiously, with avoidance of open discussion of such behavior.

C -- flouted convention and violated unenforced regulations--sometimes openly.

D -- flouted convention and openly violated enforced regulations.

Grading:

A : Keep watch, tentatively : +
B : +
C : Keep watch, tentatively : 0
D : 0

Third subfunction of Function L (Function L3): Developing (or maintaining) sense of self as cog-in-wheel, as a non-individual

Teaching/Testing Function L3:

The faculty and administration worked at building a setting on Campus X where it is all but impossible for anyone (students, faculty, or administration) to regard students as anything but more or less identical and lowly creatures. A sense of difference from others was actively discouraged in a variety of ways--for example, by denying students physical and mental privacy over very long periods of time: studying, sleeping, eating, washing/showering/toilet activity, lecture-listening, dating, class recitation--every imaginable activity was planned to take place in the company of other students.

Faculty and administration--but especially faculty, as it happens--subjected students to repeated experiences that the adult world regards as humiliating. Campus officials appeared to use the military as their model, but transferred their activity to the intellectual realm. Tasks assigned, examination questions, class recitations, disciplinary measures ("Students may turn in papers after the deadline, but at the price of a reduction by one grade-point for each twenty-four-hour period of tardiness")--were all calculated to humiliate any one with a sense of individuality.

After such repeated treatment, faculty distinguished four groups of students: those who--

A -- took these experiences seriously and developed anxieties but raised no objections publicly, though occasionally expressing their anxieties in public.

B -- pretended to take these experiences seriously (and perhaps did, at the beginning), but laughed them off among friends and acquaintances, and eventually learned to accept themselves as "a nobody" - i.e., as one not deserving or needing individualized treatment.

C -- protested these experiences publicly but without defiance or threat of violence.

D -- protested these experiences with defiance and threats of violence.

Grading:

A : Keep watch, tentatively : +
B : +
C : Keep watch, tentatively : 0
D : 0

On Campus X according to my analysis, the *educative* goals that are typically found in college catalogs, like Function M (stated earlier), were mythological. That is, the curriculum-instructional subsystem *as M* was a ceremonial, ritualistic activity that disguised what was really important functionally, namely, the curricular-instructional subsystem *as L*.

It is conceivable, of course, that an institution could attempt to meet both goals, M and L. One way to do this would be to have these functions served by different subsystems. Thus, for example, Ecumenical House might be the site for Function M with the classroom the site for Function L.

In any case, one cannot help but draw a parallel between the curricular-instructional model represented on a campus like X, and the Hopi rain-dance. As we said earlier, the mythical function of the rain-dance (the one the group accepted as real, of course) is to activate the Powers to send rain. The latent function (the real one, of which the group is not aware) is to maintain and develop group unity and identity.

Suppose now a Hopi R-and-D man wishes to discover whether the rain-dance is "effective"--whether it is worth all the time, effort, energy, and funds that are expended on it.

He favors the hypothesis that there is in fact no causal relationship whatever between the rain-dance and the precipitation deposited on Hopi lands--either directly or indirectly, either immediately or in the long run. This is a daring hypothesis, and his colleague researchers look upon him as somewhat mad--not for believing it (for they are sophisticated also and share his belief), but for thinking he can demonstrate it and persuade his tribesmen of his view. They know it is difficult enough to demonstrate (and persuade) that a causal relationship does exist, but the difficulties are increased if one is trying to prove that a causal relationship does not exist.

Finally our R-and-D man compiles his data and issues his report. His conclusion: "In our studies, no cause-and-effect relationship has been established between the rain-dance and the amount of precipitation deposited." Those responsible for the rain-dance, whose lives have been spent organizing it, working out the intricate choreographies and selecting appropriate chants (even commissioning new ones that might appeal to the youth) are taken aback. And their reaction as expressed to the public, is quite predictable:

"What a researcher! What has he shown? That he cannot demonstrate a relationship between our rain-dance and rain. No doubt his instruments are not refined enough to detect the delicate and intricate interrelationships that exist here. This is what happens when a scientist, with his thick fingers, tries to examine art."

Other members of the tribe are not so quick to condemn him. "He may be quite right," they say, "to suggest that some of the things we do in the dance may not contribute to our goal. Our researcher would, however, do a better service for us if he would distinguish the variables more carefully next time: the length of the ceremony, the precise times at which it is performed, the specific chants we chose to use or omit, the number of times we leave the earth and return to it in the course of the dance--perhaps even factors like the number of unmarried post-pubescent males who participate. We do not know. These are only suggestions. It will be his problem, naturally, to design the project properly."

They send a delegation of distinguished Elders to his office.

"We suspect you are right!" the Elders say. "We, too, have noticed that something is amiss. It appears to us, too, that, so far as rainfall goes, whether we perform the rain-dance or not does not seem to make any difference! Tell us what you think we ought to do to improve. We want to gain our goal more easily and more effectively. As you know only too well, our future depends on it. Rain is as precious as life itself. Tell us how to change our dance so the Powers will open their ears and listen to us."

Poor R-and-D man! What is he to do?

Suppose he knows the truth--the real truth, namely, that the rain-dance has an important function; but that this function has nothing to do with rain. Should he tell the Hopi Elders all about the latent and manifest functions of the ceremony? (Hodgkinson [1967, pp. 51-2] presents a brief but persuasive argument why this may not be a good idea.) The criterion is: How can he best contribute to his tribe's goal--one he, too, realizes is vital: rain is as precious as life itself.

What, then, is he to do?

There are ways, it turns out, to make it rain. Shall he suggest to the Elders that they investigate the possibility of cloud seeding? It's something they have never tried before.

Our R-and-D man reflects. There are problems--not the least of which is that the abilities and experiences of the Elders as choreographers (and former dancers) may not be entirely appropriate to the task of flying an airplane.

On the other hand, it might be more efficient in the long run to reevaluate the entire problem within a new framework: the problem is not "rainfall" as such but its effects on the soil; are there ways other than increased rainfall to achieve those same effects? The R-and-D man calculates the distance to the Araw'ah river and wonders....

In any case, *their* plea to this expert is conceived in quite different terms: "Tell us how to *improve* the rain-dance!"

A helpful reply is not easy to conceive.

CHAPTER 2

OLD STRUCTURES AND NEW

SUMMARY: Chapter 2 surveys the decade 1958-1968, analyzing the major grounds of dissatisfaction with the standard curricular-instructional pattern and describing the major trends in recent attempts to reform that pattern.

The object of this chapter is to show how general and how strong discontent among higher education personnel has been, during the past decade, with the standard structures designed to carry out curricular-instructional functions in American higher education. This discontent has expressed itself in two ways--in expressions of dissatisfaction about the standard pattern, and in efforts on almost every college and university campus to change some features of that pattern.

That the dissatisfaction is strong at the present time is evident even from the most casual perusal of the literature in our field. For example, in the 1968 AAHE Current Issues in Higher Education (Smith, ed.), every one of the twenty-five essays reflects that discontent. In the opening section of that collection, Charles Frankel declares in his essay that "no thinking man could pronounce anything but a severe judgment on the present condition of higher education" in the United States. Lewis B. Mayhew states that the American college and university stands on the verge of "imminent impotency." Roger W. Heyns characterizes the college/university's current response to stress as "a mindless and inefficient stumbling from crisis to crisis."

In January of this year, the Hazen Foundation's Committee on the Student in Higher Education (Joseph F. Kauffman served as its chairman) issued its report, The Student in Higher Education (1968). It is, in my opinion, as critical of American higher education as any public statement of this sort could possibly be.

It is often the case that a few malcontents, airing their views strenuously, create a false impression of universal discontent. It is possible, I believe, to demonstrate that this is not the case today. It is evident to anyone who has worked with large numbers of faculty that for every silent and satisfied faculty member on an American campus today, there are several who, without expressing themselves publicly, make clear to colleagues and visitors how dissatisfied they are. The basic question, in any case, is hardly quantitative. Moreover, it is one of the theses of this chapter that expressions of discontent and efforts at reform are but two sides of the same coin, and that while the dissatisfactions have been myriad, attempts at innovation and reform of a highly creative order have taken place on many campuses during the last ten years.

WHY BEGIN THE SURVEY WITH THE YEAR 1958-59?

In stressing "the last decade," as I have in the preceding paragraphs, I had not meant to imply that administrators and faculty members did not feel dissatisfactions before that year, or that curricular-instructional innovations of a serious sort had not been tried before then. But, according to my analysis of developments in American higher education, the year 1958-59 must be taken as a crucial dividing point.

Let me present some of the evidence supporting the conclusion that 1958-59 marked the end of the old era and ushered in a new one. It marked the end symbolically, for 1959 was the year of the John Dewey centennial. And it marked a new beginning also, for the National Defense Act of 1958 opened the road to a new role--a role that has turned out to be overwhelmingly important--of the federal government in American education. Another event in 1958 also proved prophetic in the realm of student affairs. For Joseph Katz (1967), that year marks the emergence of the current student activist movement. This is when SLATE was organized on the Berkeley campus and when the first student "demands" were issued: "We will be concerned with students as citizens in society--with their involvement with national and international issues," the Cal Reporter stated in March, 1958. "We will be concerned with education--with whether or not the University helps us to be open-minded, thinking individuals. We will be concerned with academic function and civil liberties. We ask only a fair hearing in the open market place of ideas." (Quoted by Katz, 1967.)

There is much other evidence that 1958-59 was a pivotal year. It was the year in which a thousand responses, from nursery school through graduate school, were galvanized into action following the shock of the first Sputnik in October of 1957; and there can be no question that since then the shape of American education, especially on the secondary school and college levels, has been seriously altered in response to continuing competition with the Soviet Union--a competition the United States began seriously (paranoically, some would say) to feel in the late fifties.

At just about that time, too, master plans for the coordination of higher education in the various states were being contemplated (Glenny, 1959).

California led the way, formulating its master plan in 1959 and enacting it into law the following year (Coons, 1960). The new law created a new board for the state college system; it also created a Coordinating Council on Higher Education that represented the interests of private institutions and of community colleges as well of the state-supported campuses. A decade has now elapsed since the original report, and some changes in structure and procedure have taken place, but the basic framework adopted in 1960 has remained (Paltridge, 1966). I have commented elsewhere how the plan for statewide coordination adopted in California necessarily affected the shape of undergraduate education (Axelrod, 1964); the master plans adopted in other states sought in some ways to avoid such problems but these efforts have only been partially successful (Paltridge, 1968; Palola, 1968; McConnell, 1965 Unruh, 1968)

Other historic events were also taking place around 1958-59. According to Paul Woodring (1963), the teachers college came to the end of its "short, happy life" at the end of the fifties; and the general education movement, characterized by Brown and Mayhew (1965, p. 105) as "a serious attempt which failed," was also coming to the end of its stormy and precarious existence. As a national movement, it had already lost its influence. Discussions about curriculum and about instructional strategy, except on a handful of "experimental" campuses, had become largely department-oriented. Indeed, when the Association for General and Liberal Studies came into existence a year or two later, it sought to represent the interests of faculty members committed to general education, but it studiously avoided the term in deciding upon its own name (Axelrod, 1965).

In all of these diverse ways, then, the year 1958-59 can be taken as the opening of a new era. The first Sputnik had served to dramatize some of the weaknesses of American higher education and had foretold the closing of the old era. But even before Sputnik, researchers had begun to collect the data which were to demonstrate that the model dominant in the fifties was not working effectively. The studies which, in my view, most clearly and most accurately reflect the state of higher education in the late fifties include the following: for the junior colleges, Leland L. Medsker's national survey (1960); for the four-year colleges, the collection of essays edited by Nevitt Sanford (1962); for graduate education, the works of Bernard Berelson (1960) and Oliver C. Carmichael (1961); and for professional education, the series of studies undertaken by Earl J. McGrath and his associates (1959).

These studies reflect a picture of general failure. The junior college, forfeiting its identity, had done less than was minimally required to meet its major objectives (Medsker, 1960, pp. 23-27, 53). Four-year colleges had failed to achieve their own stated purposes, and they failed by other reasonable standards of accomplishment (Sanford, 1962, p. 2.). As for graduate programs and the professional schools, I presented evidence in my position paper for the 1964 ACE meeting (Axelrod, 1965, pp. 48-51) to justify the following summary statement (p. 42):

> Graduate programs were a mish-mash of sense and nonsense which provided for doctoral candidates, in addition to the experiences peculiar to each, the common experience of humiliation. And the professional schools admitted that their programs were falsely based, attempting as they did, to contain an accelerating knowledge impossible of containment.

FAITH IN CURRICULAR REFORM

As the old era drew to its close, and as American educators became more aware that the most important objectives of undergraduate education were not being attained, a nationwide movement to reform the undergraduate curriculum came into existence. Almost every campus in the United States, in one way or another, seems to have been influenced by these efforts. The past decade has seen great ferment in curriculum planning and curriculum revision. *Education at Berkeley*, the report of the Select Committee on Education of the Academic Senate on the Berkeley campus, thus prefaces its recommendations for change (1966, p. 3): "We are far from alone in our self-examination. Nearly every major college in the country has, or has had, or is planning similar studies by similar committees. We sense that we are part of a great national--and international--development, the response to an historical crisis in higher education."

Behind this gigantic reform movement lay a universally accepted assumption: the right curriculum *can* make a difference. Even in the light of the evidence that one might expect would cast doubt on this assumption (see our discussion of this point in Chapter 1), such faith in the curricular-instructional process should not come as a surprise to the reader. It is commonly believed that an undergraduate college exists for the sake of its educational program. Thus, the president of Parkinson College, addressing a curriculum committee on his campus, points out that the curriculum is not simply one segment of a college's life but is its very center:

> As I have pondered the perplexities of this college, it has seemed to me that the undergraduate curriculum is the key to solving the entire range of problems. It is the curriculum which costs the most. It is the curriculum which sets the intellectual tone of the campus. It is the curriculum which demands the most from faculty. And it is the curriculum through which the college best can achieve its purposes. (Cited by Mayhew, 1965)

John W. Gardner expresses the same faith. A thoroughgoing reform of the undergraduate curriculum is essential; moreover, as Gardner declared at the 1965 California Conference on Higher Education (Gardner, 1965): "The movement for reform at the college level is already underway; . . . it is certain to transform instruction in all major fields of knowledge."

DEPERSONALIZATION ON COLLEGE AND UNIVERSITY CAMPUSES

Closely related to curricular change is the increasing size of the undergraduate population. According to Brown and Mayhew (p. 100), "the largest institutions of higher education will grow even larger," and "the vast majority of students will attend complex universities located chiefly in urban settings." Curricular reform and the increasing college population in urban centers are in a sense part of the same problem. The task of greatest priority in American higher education is therefore not merely the formulation of new undergraduate models but the creation of new models for the large urban college.

The criticism most commonly heard of American institutions of higher learning--especially the urban institutions--is that they are becoming "too big." This is true not only of the large universities but of the state colleges and medium-sized universities which are also growing at a rapid rate. Junior college enrollments are increasing even faster than those in other sections of higher education, and new junior colleges are being steadily established. This growing population of American campuses is all too readily taken as the source of every major problem in higher education. But John W. Gardner (1965, p. 37) scolds those who criticize American colleges and universities for their bigness:

> I have been surprised by the censorious tone with which some critics refer to large institutions, almost as though...these institutions had deliberately chosen to do an evil thing.... The institutions being scolded for largeness today are the ones that have been most responsive to the American eagerness to broaden educational opportunities. We should have the grace to live with the consequences of our choices.

Surely the sense of isolation and estrangement from which the American undergraduate now suffers cannot be accounted for by the size of colleges alone. The conditions that separate students from one another and that separate students from faculty seem clearly to stem from more complex causes. Several years ago, Mervin B. Freedman (1965, p. 149) pointed out that one of these causes might be the intense academic competition that has pervaded most campuses. He observed that students had rarely had "the opportunity of sharing or cooperating with other people in a venture which has meaning or value for all participants." But in many colleges and universities now, he said, attempts are being made "to counter the atmosphere of competitiveness and isolation which have prevailed on most campuses since the early 1950's." This analysis supplied the basis for Freedman's reading of the Berkeley events of 1964-65 (p. 149-50), and the Byrne report to the University of California Board of Regents (1965) confirmed that interpretation. The Berkeley group of political activists was, according to the Byrne report (1965, p. 3.), "comparatively small"; nevertheless, in certain ways this group was not atypical: "It should be emphasized...that their isolation was by no means unique."

In recommendations I have made (Axelrod, 1967a and 1967b), the key to a solution appears to be the formation of "primary groups," that is, groups consisting of students and faculty who care about each other. Since the new models must be designed for large, urban, non-residential campuses, as well as for residential colleges, it is clear that the crux of the solution cannot lie in a residence hall program per se. The uniqueness of the new models must lie, rather, in a certain relationship between the primary group and the curricular-instructional process.

Most illustrations of this pattern in existence today, however, do include common housing for students in the group. This is the case in Stephens College House Plan, introduced in the fall of 1960. Faculty members are assigned on a full-time basis to a living-learning center and their offices are located there. All students in the House Plan take identical courses. Individualization is sought not through election of different courses but in other ways within the machinery of a prescribed curriculum (Leyden, p. 91).

Michigan State University has followed basically the same framework but with vastly greater numbers of students. Their first living-learning residence hall opened in 1961; by 1967, there were seven such halls housing 1,200 students each. Approximately 10 per cent of the cost of these halls goes into academic space. Faculty advisers and counselors have offices there and a wide variety of courses are given within the halls. Everett B. Blackman reported (1966, pp. 1-2) that student performance in these programs is slightly superior to that of students living in conventional residence halls." He pointed out that "closer relationships between students and faculty members are plainly evident." Gordon Rohman (1967, p. 44) dean of Justin Morrill College at Michigan State, also believes the new model does "increase the amount of communal college-type feeling."

A simple hypothesis provides the basis for this solution to the problem of depersonalization. If progressive depersonalization arises out of ever-increasing bigness, then humanization should occur if the structure, even as it grows larger, is decentralized into smaller, self-contained units. According to Dean E. McHenry, Chancellor at the University of California, Santa Cruz, the essence of the plan "is to organize instruction in such a way that the advantages of a small college--close instruction, sense of belonging, residential setting--are combined with those of a large university." (McHenry, 1964, pp. 136-7).

The Michigan State University and Santa Cruz models require residence halls for their solution to the problem of isolation and impersonalization. A successful experiment at Florida State University in the spring of 1966 clustered students in common classes but did not house them together. A continuation of the experiment in the fall semester involved 330 students in eleven clusters; about 150 of them not only had courses in common but were housed together (Winters, 1966). In fall of 1966, the Time education editor did a national round-up of experiments using what he called "the cluster concept." The article described seventeen programs where the concept here labeled "the primary group" played a central role in organizing classes and programs. In fifteen of the seventeen programs, the residential component was considered essential (Time, Sept. 9, 1966, pp. 46-7). For most observers of the higher education scene--for example, for Riesman (1964, pp. xvi-xvii) and for Mayhew (1967, p. 7)--the importance of the residential component must not be underestimated. Yet Riesman takes a leap beyond this point. It is true, he states, that he believes the residential college must have greater impact on students than the commuter college because of the close ties which develop among peers on a residential campus. Nevertheless he believes it conceivable that "a commuter college, by heroic experimentation, could become almost equally potent" (p. xvi).

Such a challenge has been felt and taken up by some of the large urban colleges and universities. Brown and Mayhew report that Brooklyn College has "experimented with groupings of students to maximize interpersonal relationships and to decrease the feeling of isolation" (p. 80). Although many students at Berkeley live in residence halls, the Experimental College Program organized in 1965 by Joseph Tussman and four colleagues does not house students together (Tussman, 1966; 1967). Its focus is, rather a distinctive curriculum. Dean W.B. Fretter describes the program thus: "Its essential structural feature is that it abandons the course system and, instead, organizes the educational life of the student around the study of significant themes and problems" (Muscatine, p. 132).

The Freshman Program of Integrated Studies at San Francisco State College, launched in the fall of 1966, is another new effort in a large urban institution. It is designed for a group of seventy-five full-time

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students who take a block of prescribed courses during the freshman year, with all class sessions being given at the college's Downtown Center. Some of the students in the program live on campus and commute to the inner city; others live at home or share an apartment in San Francisco. All program students have full use of main campus facilities, but their entire instructional program is given away from the campus. There are several philosophic principles on which this new program is based, but its primary goal is to build a small "primary group" of students and faculty. Faculty members in the program believe, "first of all, that a way must be found to combat the impersonality of most large campuses" (Axelrod, 1966).

A project similar in some basic ways to both the Berkeley and San Francisco experiments is the Chabot College Tutorial Program. Chabot is a community college. As with the Tussman program, the Chabot Tutorial Program abandons the notion of individual courses. When it began in the winter quarter, 1967, 125 students were enrolled in the program for five quarters, and five faculty members from five different areas of study devoted their full time to it. Each instructor in the Tutorial Program is responsible for "tutoring" the texts in all five areas; and he assumes certain major responsbilities for instruction in his own particular area. Students are rotated to a new tutor each quarter so that all students will study under each of the five faculty members. Students working under a given tutor look upon him as their "personal guide, friend, mentor and adviser in the world of learning." Instructors, for their part, "endeavor to establish a close, personal instructional relationship with their own tutorial students and be available for consultation to members of the entire group" (Fitzgerald and Marker, 1967, pp. 7-8; Marker, 1968).

New ways to combat impersonalization and isolation are thus being sought, not only by the residential colleges, large and small, but also by the commuter colleges. No progress can be made until "the techniques of bringing small groups of students into relationship with teachers so as to get the best out of both"--to quote the editor of CEEB's _Challenge of Curricular Change_ (1966, p. xxiii)--have been discovered, tested, and refined.

But progress has been made since 1959. Mervin Freedman has pointed out (1966, p. 150) that a modern-day Rip Van Winkle who had fallen asleep in 1959 and had awakened in the late sixties would scarcely believe his eyes: "The self-studies, the revisions of the curriculum, the attempts to turn educational assembly lines into communities where faculty members and students have relationships with one another that are human would baffle him no end."

FRAGMENTATION OF THE CURRICULUM

The curriculum patterns survey carried on by the U. S. Office of Education (Hasswell and Lindquist, 1965) indicated that undergraduate curricula have characteristically been built in two segments: a group of courses in different fields of study designed to give "breadth" and a group of courses in a single field designed for "depth."

Except in a handful of institutions, instruction in "breadth" has been in the hands of the departments that carry responsibility for specialized curricula. On the whole this mode of organization has been ineffective. The cause for its ineffectiveness, as Algo Henderson (1960, p. 115) points out, is that "the urge to specialize has nearly swamped our institutions." Other educators (McGrath, 1961; Ross, 1963) have pointed to an ominous future for undergraduate colleges if the "cult of specialization" continues unabated. The fragmentation of knowledge which followed World War II had a predictable effect on course offerings. But course proliferation took place not only in the natural and social sciences, where the explosion of knowledge was most marked, but also in such fields as English and history (McGrath, 1961, p.6). Brown and Mayhew, point out (1965, p. 51) that the history department at a private university requiring 30 hours in the major offered 270 hours in history for undergraduates.

Proliferation of courses has, of course, been a great drain on the budget. Administrators are concerned about that, and they are concerned, too, with the appropriateness of means to ends. "The curse of departmentalization," as the president of Goucher College expressed it (Kraushaar, 1962), "gets in the way of the student's education." The explosion of knowledge has thus had the most serious consequences on curricular development. Intensive specialization at the undergraduate level has become characteristic of standard curriculum models at the larger college and at the university.

Within the structure prevalent on those campuses, the problem is both severe and insoluble. David Truman of Columbia University formulates the problem well (1966); on the one hand, he states, "if one is to do anything in science...the budding scientist must start early, move fast, and look at nothing else." On the other hand, for the young physicist or biologist "the consequences of a truncated education may be catastrophic."

As if that dilemma were not enough, the pressures toward specialization increasingly encourage premature decisions. The Select Committee on Education at Berkeley warns the faculty: "We need to offer protection, particularly to beginning students, against premature specialization." Douglas Heath, moreover, points out (1966, 1968) that while the student entering college is better prepared than ever before, he may be over-prepared. Sometimes, even when a professional school recommends broad undergraduate training, such programs may not be available. This is the situation reported by the American Association of Theological Schools (n.d., p. 1); their expectations, they report, are impossible to fulfill because of "the accelerating rate at which students in undergraduate programs at some of our most distinguished colleges and universities are urged toward a major field." William C. DeVane, however, believed that on the whole the pressure toward specialization seemed to be coming from the graduate disciplines. There is, he reported (1964, p. 198) "a severe pressure from above...toward early and narrow specialization as more and more students press toward graduate and professional schools."

There is a great deal of indecision about careers, even among the most studious high school students as they enter college and learn about themselves and the world. The Center for Research and Development in Higher Education at Berkeley, for example, found (Warren, 1961; McConnell, 1966, p. 36) that 40 per cent of the winners and runners-up in the National Merit Scholarship competition changed their intended field of specialization between the summer before college entrance and the end of the sophomore year. A strong commitment even at the opening of the junior year is questionable; Brown and Mayhew (1965, p. 4) report that well over half of all college graduates are not working in fields related to their undergraduate majors. According to a Harvard Business School survey, "only 8% of the graduates were doing what they had wanted to do when in college" (cited in Blocker, Plummer and Richardson, 1965, p. 214). It is crystal clear that since such a very large number of the people in the professions today are actually working at jobs for which they were not originally trained, the most effective education is not one which prepares for a particular job but one which develops the capacity to go on learning (Sanford, 1966, p. 46).

In recent years, students have become more cautious about early and narrow specialization. The proportion of students enrolling in the "no preference" category at Michigan State University rose from 16 per cent in 1955 to over 25 per cent in 1965 (Juola, 1966). A few years ago, Mervin B. Freedman, who was then assistant dean of undergraduate studies at Stanford University, reported that students were becoming "increasingly dissatisfied with compartmentalization and specialization of knowledge. They are instead seeking breadth and unity in their studies" (1965, p. 150).

In The Uses of the University (1963, p. 101), Clark Kerr listed a number of changes which he believed will take place on American campuses; the most important of them, he stated, will be "directed toward overcoming the fractionalization of the intellectual world." This fractionalization is indeed being overcome at the point where the most fruitful research is underway. The reorganization of the disciplines, already in evidence in the research institutes, is also beginning to be reflected in some of the new undergraduate programs.

The old models have been dominated by the notion that the traditional disciplines (to quote a faculty member at Raymond College) are "real entities which...adequately reflect processes of life beyond the academic world" (Wise, 1966). New conditions demand the reorganization of the disciplines, and some of the newer programs are responding to these conditions. "The arts that liberated human eyes must be constituted anew as they have been reconstituted to meet new problems in various periods of their past," declares Richard McKeon (1964). But McKeon believes it is "unlikely that we shall be able to transform existing departmentalization of subject matters to make one of the traditional subjects, or one combination of them, particularly relevant to liberation or humanity" (p. 175).

BREADTH AND DEPTH AS CONCEPTS IN CURRICULUM PLANNING

The greatest confusion in discussions on college curricula during the past decade has risen out of the use of the terms breadth and depth. In the folklore of higher education it does not seem to be possible to conceive of a broad program as achieving depth, or of a specialized program as achieving breadth; such conceptions are regarded as contradictory. The terms suggest that a major program in sociology, for example, must achieve greater depth, by the very nature of things, than a major in a "broader" field, for example, behavioral science. It suggests further that a major program in criminology or social welfare must be "narrower" than one which is not as specialized--for example, sociology. These are examples of the assumptions which pervade the academic world, caught as it has been in the mythology of the breadth-depth concept. In the Foreword to Daniel Bell's The Reforming of General Education (1966, p. ix), David Truman thus analyzes the central problem:

> The issue, as Professor Bell effectively argues, is not the specious one of "breadth" versus "depth," which implies a nonsensical choice between superficiality and competence. The central problem is rather relevant breadth versus a limited and dangerously irresponsbile competence. Such personal competence may be equivalent to social incompetence; it may either ignore the moral and political consequences of what the specialist does or may permit him to make decisions on behalf of the society for which he is in fact unequipped.

Some of the new curricular models have succeeded in avoiding the trap of the breadth-depth concept. In discussing the present Beloit curriculum, instituted in the mid-sixties, Dean Kolb states: "We are not placing breadth and depth in opposition to one another." Kolb redefines the two terms and makes the only desirable kind of breadth identical with the only desirable kind of depth:

> Modern man is a specialist and specialization requires knowledge of a particular discipline or profession. But such depth itself becomes a form of existential dilettantism unless, standing in his speciality, the specialist sees his work as related to his life, his discipline as related to other disciplines, and his knowledge as related to the world of action and value. If this is breadth, it is also a more profound depth--a depth without which we cannot hope to live in the modern world.

Dean Kolb exemplifies this concept in the picture he points of the excellent undergraduate teacher is his essay, "The Undergraduate Teacher As Professional Man Plus" (1968).

Perhaps Alfred North Whitehead's (1929) famous definition of the goals of education can supply the key to a new approach: "What we should aim at producing is men who possess both culture and expert knowledge in some special direction. Their expert knowledge will give them the ground to start from, and their culture will lead them as deep as philosophy and high as art." Whitehead's definition is a superior one, not because it is a more exact statement of the goals of education than those found in a thousand American college bulletins, but because his terms reflect the unity of knowledge. It is not a new definition; yet it suggests the direction in which the new curriculum models might move.

A clear trend in undergraduate curriculum design since 1960 is described by Norman Charles (1965, p. 440) as "the growing stress upon the structural rather than the substantive aspects of knowledge." Charles explains this new emphasis:

> Curricular thinking in higher education has been geared to a belief in the need for "coverage" of content. The new emphasis seems to be on the process of learning in each discipline, with the objective that the student will master the structural principles in a variety of subjects and then be capable of making an infinite number of applications.

One of the signs of this trend is a return to the interdisciplinary course and the recommendation on many campuses that means be discovered for supporting such courses even though they are not within the jurisdiction of one department (Dressel, 1963, p. 63; Muscatine, 1966, p. 131). The Tussman experiment at Berkeley is an even bolder interdisciplinary venture; it abandons the notion of "course" altogether and sets up a four-semester interdisciplinary program, not divided into separate courses, taught by a mathematician, a poet, a lawyer, a political scientist, and a philosopher (Tussman, 1966; 1967). Another plan was suggested by William C. Devane (1965) who recommended that undergraduate major fields be broadened into interdisciplinary programs. The interdisciplinary principle plays a central role, too, at the new California State College located in Dominguez Hills; all baccalaureate programs require a dual major, one in a traditional discipline and the other in an interdisciplinary field. An even more radical plan is set forth by Joseph J. Schwab (1963) who suggests a new relationship between the totality of the liberal arts and a single field of study. An equally radical notion underlies the two B.A. programs--one in humanities and one in the social sciences that was adopted in 1966 for the new senior college at the New School for Social Research (Austill, 1966). The interdisciplinary principle also underlies some of the newly designed programs for adults: The Bachelor of Liberal Studies program at the University of Oklahoma, for example, built on the theme of man in the twentieth century (Burkett, 1965); the plans for the return of women to college campuses when their careers as wives/mothers cease demanding the bulk of their time and energy (Dennis, 1963); or the Adult Degree Program at Goddard College.

Liberation from the conceptual trap of the breadth-depth framework can take place only as progress is made toward the discovery of a workable principle of unity for baccalaureate programs. In the undergraduate curriculum models exemplified by Stephens and Shimer, by Antioch and New College of Hofstra, by Raymond and Goddard, the depth-breadth issue is on its way to being resolved. While these models were designed for the small liberal arts college, larger institutions are now beginning to explore the relevance of curriculum structures which have abandoned the opposition between general education and specialized studies, between the liberal arts and professional education, between terminal and transfer curricula.

The community colleges have been in a particularly difficult position, having inherited all of these distinctions from the four-year institution just at the time their meanings were becoming obscure and their usefulness outdated. A study completed at the Center for Research and Development in Higher Education at Berkeley suggests the abandonment of such categories as "terminal" and "transfer" which have plagued community colleges since World War II (Knoell and Medsker, 1965, p. 89), and the president of one of the nation's largest community colleges recommends occupational programs which are "not closed or terminal" (Lombardi, 1964), a recommendation with which experts in the field agree (Knoell, 1968; Martorana, 1968).

In any case, all of these distinctions--general education and specialized studies, liberal arts and professional education, occupational and transfer curricula--are false distinctions for today and certainly for tomorrow, however useful they might have been in some other world of the past. They not only obscure vital issues but do us the further disservice of contributing to the dysfunction that characterizes the college/university world today.

CURRICULAR ISOLATION FROM THE WORLD OUTSIDE

"When education ceases to be concerned with the societal problems of the day," Everett H. Hopkins has stated (1966), "then that society is already beginning to decay." The Select Faculty Committee at Berkeley reports (Muscatine, 1966, pp. 4-5) that there has been too little connection between the curriculum and the world outside. Most students today agree with the following analysis by a student:" "There is a violent, almost ludicrous disparity between the way you live, think, act, talk in a university dormitory and the way you do all these things... on the outside" (cited by Kauffman, 1964). Research studies also show that, on the whole, students fail to see the relevance of academic learning to their deeper interests and concerns. For a great many students, according to Katz and Sanford (1966; and Katz, 1968) academic demands are seen merely as stepping stones toward a career or "simply as hurdles society puts in the way to test their obedience, endurance, and conformity."

The wall between the curriculum and the world outside is, however, slowly being broken down. There are now hundreds of campuses which have community involvement programs in one form or another. As early as 1964, Randolph reported (p. 390) that tutorial projects--following the motto "Each one Teach one"--involved more than 4,000 college students and 5,000 high school students; and Cox (1964) described specific programs that had started on a dozen urban campuses. Pitkin and Beecher, in their chapter in the book of essays on newer developments edited by Baskin (1965) emphasize how the community can be used by the college as a resource for learning. President Hesburgh of Notre Dame University declared (1965) his strong belief that college and university faculties "must accept as part of the whole educational system this experience of service" and Mervin B. Freedman (1966) presents evidence to indicate that "an ethic of social service has been assuming more moment in the lives of students."

Projects such as tutorial programs for culturally disadvantaged children often provide a profound educational experience. In the standard educational model, however, it is not easy to incorporate such experiences into the curricular and credit structure. It is ironic that students should receive "credit" for what may be a relatively meaningless class experience and none for a valuable community experience even when it is accompanied by a training seminar. Again, a rigid notion of what is an appropriate "academic" experience appears to be part of the cause. And ultimately, in my view, the old-fashioned Protestant ethic plays a role here; since learning is considered to be "hard work" and not "fun," it is assumed that no one can learn anything very significant during an experience in which he is having fun. But, worse than that, since suffering and discomfort are considered inevitable concomitants of "work" (and therefore are seen as ingredients of the learning process), most academic people regard a community experience in itself not worthy of academic credit unless there is evidence that it has been accompanied or followed by activities (such as the writing of papers or exposure to classroom lectures or assigned readings) of the traditional "no-fun" sort.

This attitude, even among those academicians who have rejected most other features of the old Protestant ethic, is still surprisingly powerful. The Muscatine Report (pp. 137-8) confirms that this is the prevalent attitude: "For the most part, the educationally valuable student work off-campus goes without recognition or credit."

Of course academic credit is jealously guarded by faculty bodies. It is, after all, the basic source of faculty power, for the accumulation of specified kinds of credits yields a college/university degree. It has been a generally recognized principle in American higher education that activities to which faculty members have not contributed ipso facto cannot yield academic credit, even if these experiences are demonstrably "educational."*

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* The principle of "credit by examination," for example, is on the books but rarely used, except on a handful of campuses.

It has not been easy for standard programs to work out plans allowing students credit for off-campus experiences. Cox maintains (1964, p. 397) that credit should be given if the experience represents "sustained work"; but the Muscatine Report (pp. 137-8) is unwilling to go further than the recommendation that "qualified students...be permitted to present for academic credit a *limited* amount of *supervised* field study of demonstrable intellectual value" (italics added). The result of such restriction, inevitably, is that community projects have remained part of the extra-curriculum in the standard educational model.

In the new curriculum models, however, community involvement is not a part of the extra-curriculum; it has been worked into the very fabric of course assignments. In urban institutions, the city itself is used in a systematic way as an educational laboratory. A relationship between two major educational means--books and direct experiences in the city--is being worked out so that each can enrich the other. I have elsewhere set forth the argument in some detail in my attempt to demonstrate that courses built on such a principle ought more likely to lead to the commonly accepted long-range educational goals than courses that are primarily book-centered and concept-oriented (Axelrod, 1966; 1967).

In an ideal undergraduate curriculum, Nevitt Sanford states (1966), "the great issues that concern us all, but which academic men rarely let creep into their courses, will become the major focus." He believes such a curriculum would give emphasis to "the human problems that exist in the community where the young people live" and would not discourage students from going off-campus to look into such problems "or even to engage in actions affecting them." Sanford is concerned however with the "intellectual content" of such experiences and discusses the special role of faculty in this connection (pp. 59-60).

For the urban college and university, the relationship between the curriculum and the community is part of a larger problem. Gardner characterizes the city as the heart and brain of an industrial society. But our cities today, he points out, are plagued with a variety of ills; the solutions, he declares, "must be near the top of the national agenda for the next decade." Although no institutions are better equipped for that struggle than colleges and universities, "they have played a negligible role thus far," Gardner claims (1965, p. 7; see also Tickton, 1965; Dobbins, 1964).

The standard curriculum model not only isolates the curriculum from the immediate campus community--for the urban campus, this means the "city" itself--but also isolates the curriculum from the world community. All of us in the academic world have suspected--indeed since the end of World War II, we were virtually certain--that this was the case. But the hard evidence was placed under our noses almost ten years ago. At that time, a study involving almost two thousand students at 175 colleges and universities (Bidwell, 1962) showed that the 1960 senior's knowledge "of foreign countries and his understanding of the basic principles and the current problems of American foreign policy are inadequate for the performance of his responsibilities, either as a plain citizen or as a community leader" (p. 110).

Since that study, education in international affairs greatly increased on American campuses but--aside from the growth in overseas programs--only in fairly traditional and ineffective ways. In 1962 a Hazen

Foundation committee under the chairmanship of John W. Nason was appointed to study the world affairs content of undergraduate curricula. The committee's report appeared in 1964 and a new organization, Education and World Affairs (EWA), is now engaged in implementing its recommendations. But EWA, too, cannot go beyond the traditional learning models which, on most campuses, limit most students to the knowledge they can get from reading and from memorizing presentations of facts made by other observers, analyses made by other scholars, and generalizations drawn by other scientists.

Since 1959 there has also been a dramatic increase in studies of non-Western languages and areas (Axelrod and Bigelow, 1962; Bigelow and Legters, 1964a, 1964b). The Federal Government is providing matching funds for scores of language and area centers many of which are at the undergraduate level. Curricula in non-Western studies are necessarily interdisciplinary, and colleges which are heavily department-oriented have therefore found it difficult to institute a cohesive program in foreign area studies (Gumperz, 1968; Abrams, 1967a, 1967b). Howard A. Reed observed in 1964 that although hundreds of colleges were offering courses dealing with the countries of the world beyond Canada, the United States, and Western Europe--for that became the accepted definition of the term non-Western--"only about fifty to seventy-five colleges have centrally administered, integrated non-Western area programs rather than miscellaneous courses." The survey by the U.S. Office of Education task force on undergraduate programs in international studies (Hamilton, 1967) confirms the fact the same general situation prevailed in 1967. There has been, however, a startling increase in study-abroad programs for undergraduates. These programs indicate another significant trend in the restructuring of American college curricula. But, as in the case of other new developments, the older models have encountered some difficulty in absorbing study abroad into the course and credit structure of curricula at home. Yet the study abroad programs have proved enormously significant as experiences in cross-cultural contrasts, as shown by Gough and McCormack (1969), Olds (1968) and Katz (1968).

The new curriculum models are therefore characterized by external mechanisms that encourage the opening of pathways to direct cross-cultural experiences. This includes not only study abroad but also community involvement projects in which students live and work in American subcultures other than their own. In these new models, such experiences are planned not as extra-curricular activities but are built into the very fabric of the curriculum.

THE CURRICULAR-INSTRUCTIONAL PROCESS

During the past decade, it has become increasingly clear to educational reformers and the planners of new colleges that a college program is more than a design on paper. Hence, educational planning must entail more than the formal requirements and procedures leading to a degree. There is a difficult lesson here for the educational reformer: little is likely to be accomplished by a new curricular structure unless faculty members change too. Paul Dressel (1964, p. 145) emphasizes this point in his analysis of curriculum reform: "Many intensive curriculum reorganizations are destroyed," he states, "as soon as "faculty members are given the responsibility for instrumentation." Robert F. Byrne (1966) insists that changes in a curriculum can take place "only after revisions in the faculty and in the spirit and goals of an institution have already occurred." Cole and Lewis, in their New Dimensions in Higher Education pamphlet (1962), make the same point.

Almost everyone working in the field now agrees that curriculum design and instructional strategy are two sides of the same coin. Most curriculum planners now see in a way they did not perhaps realize a decade ago that no sound or lasting curriculum change can take place on a campus where the teaching process remains static or where attitudes toward it relegate it to a private sphere--an aspect of a man's personal style--which is not subject to discussion.

DETERIORATION OF TEACHING ON THE AMERICAN CAMPUS

The deterioration of the teaching function appears to have two major causes. The first is a predominant campus ethos--characteristic of most American campuses--which rewards faculty members for activities other than teaching. The second is an outmoded notion of how human beings learn. The traditional viewpoint about learning, still held by many college faculty members, leads them to adopt a set of classroom practices that, at best, can have only limited effectiveness.

On campuses following the standard model, it is not likely that either the distinguished scholar or his disciple just out of graduate school will give excellent undergraduate instruction. William C. DeVane (1965, pp. 148-9) pointed out that the distinguished scholar is likely to enter into a relationship with undergraduates on one basis only, namely, as potential future scholars in his own field; and, Dean DeVane went on, "if he is teaching freshmen, the course will probably be taught as if it were the first course of the long journey toward the doctor's degree in that discipline."

The young scholar just out of graduate school is likely to be even narrower than his mentor, DeVane asserted. It is common knowledge that senior faculty members do not like to teach freshman courses. The Select Committee at Berkeley (Muscatine, 1966, p. 40) believes this aversion may, in part, indicate a defect in the freshman courses: "A course that fails to attract the interest of experienced and talented scholars may be failing to arouse interest in freshmen as well." The Berkeley study committee therefore recommended (pp. 39-63) the adoption of a number of measures which it hoped would create an ethos hospitable to teaching.

Such an ethos cannot, however, develop unless there is more than a passing interest among college faculty members in the nature of learning. The psychology of learning and the field of personality theory have a voluminous literature, and the current patterns of pressures on college teachers do not encourage a serious commitment to become well informed in these fields of study. Hence the myths and common-sense notions about personality and learning--or superficial popularizations of recent findings--prevalent among the lay public,also obtain among the large majority of college faculty members. On campuses following the standard model, instructional practices are based on a theory of personality which was current in the twenties and is now thoroughly outmoded (Sanford, 1962, p. 419). The image of a learner's soul as an empty pitcher into which the teacher pours the fluid of knowledge, is "ineradicable," states Jacob Klein (1965, p. 5).

The problem is currently complicated by the appearance of new auto-instructional media which, when perfected, can virtually replace faculty members in the transmission of factual information and in the teaching of low-level technical skills. Computer-assisted instruction has not yet had much of an impact; but it is already a reality. Its influence on the transmission of knowledge, it can already be predicted, will perhaps be greater than that of the printing press. Once the "books" are written for it--for that will be the great stumbling block, not the development in hardware--it is quite clear that the college teacher's role must change radically.

Benjamin S. Bloom points out in his review of twenty-five years of educational research (1966, p. 217) that with respect to "knowledge or simple skills," a great variety of instructional methods yield essentially equal outcomes: large class, small class, TV instruction, audiovisual methods, lecture, discussion, demonstration, team teaching, programmed instruction, authoritarian and nonauthoritarian instructional procedures, etc., "all appear to be equally effective methods in helping the student learn more information or simple skills." The machine will by no means replace the teacher, it is claimed; what will happen, we are told, is that teachers will be freed to perform instructional tasks of a higher order. The difficulty here rests in the fact that most faculty members, once they are thus freed, do not appear to know how to go about performing the tasks for which the machines have freed them. Consequently, new instructional approaches must be employed. These are what Bloom calls the "dialectic" as opposed to the "didactic" approaches. In his review of the research in this area, Bloom calls attention to the work of

Dressel, Chausow, Glaser, Suchman, Newcomb, Sanford, Stern, Houle, McCollough, McKeachie, and Van Atta (p. 217).

The "dialectic" approach, based on the notion that learning is best induced by the process of joint inquiry by professor and student, has long been recognized as the only effective way to carry out the teaching/learning process without wasting our faculty resources--for it is clearly a waste of a valuable professor's time to have him present in a lecture a body of information a student can easily acquire without his help through educational "programs" we can prepare for such media as the printing press, television, and the computer. Moreover, even a decade ago, the research in higher education had already drawn a fairly clear picture for us. At that time, Winslow R. Hatch (1960) summarized the research of the late fifties on this subject as follows: "The new research...suggests that problem-oriented approaches to learning are effective; that inquiry by students and teachers is a promising academic way of life that should be examined for its pedagogical and curricular implications."

Lynn White, Jr., (cited in Rosecrance, 1962, p. 141) characterizes the new role for faculty members: "The faculty are simply the more mature students with a special responsibility for keeping the conversation going." The new curriculum models in undergraduate education strongly reflect a changing role for both students and professors. As the professor takes on certain "learning" functions that the old model deems appropriate only for someone in student status, the student must assume certain functions that the old model deems appropriate only for those in professorial status. The new view of teaching and learning as an engagement in joint inquiry thus suggests serious changes in the old pattern of authority and status. Hoarld Taylor believes that the most effective modes of learning do not require the continual presence of an educational "authority." The crux of the process, Taylor asserts, is for students to learn from each other, from books, from experience, from their teachers, or from anything" (cited in Muscatine, 1966, p. 45; see also Hatch and Richards, 1965, pp. 60-67).

Some of the new models emphasize student participation in course planning. For example, one of the principles underlying the Experimental Freshman-Year Program at San Francisco State College was that students "ought to have an opportunity to participate in planning the structure of their courses and in formulating their own assignments" (Axelrod, 1966). There appear to be two reasons for advocating such participation. First of all, if such participation is serious, it creates better motivation in students. But the second reason is more important: the process itself, it is claimed, has educational value; it helps prepare students for a world in which, one hopes, significant aspects of their lives will be self-directive.

Freedman (1966) adduces yet another argument in favor of student participation in course planning. He believes that the faculty member committed to a single discipline, using the same approaches over a span of many years, may have difficulty in looking at problems in new ways. "The flexibility of youth, the sensitivity of young people to new experience," Freedman points out, "may well serve as an antidote." Thus

Freedman believes that an alteration in the pattern of status and authority relationships among faculty and students is not only beneficial for student growth but for faculty members as well.

This new pattern--just now becoming visible on this or that campus--was anticipated over fifteen years ago by Carl R. Rogers. He said at that time (1952):

> It seems to me that anything that can be taught to another is relatively inconsequential, and has little or no significant influence on behavior. That sounds so ridiculous, I can't help but question it at the same time that I present it.... I have come to feel that the only learning which significantly influences behavior is self-discovered, self-appropriated learning. Such self-discovered learning, truth that has been personally appropriated and assimilated in experience, cannot be directly communicated to another. As soon as an individual tries to communicate such experience directly, often with a quite natural enthusiasm, it becomes teaching, and its results are inconsequential.

THE COURSE-AND-CREDIT SYSTEM

An extensive survey of baccalureate requirements carried out by the U.S. Office of Education (Hasswell and Lindquist, 1965) confirms the general impression held in the academic world about the dominant bachelor's degree pattern. Approximately one-fourth of the requirements set for the bachelor of arts are in major-field courses; general education requirements account for about 50 per cent; and the remaining one-fourth is reserved for elective courses. Bachelor of Science programs tend toward larger requirements in the major subject with a reduction in elective courses.

As undergraduate curricula are described in most college bulletins, they appear to have a discernible structure. When records of students are examined, however, the curricula which have such a clear design in the college bulletin are often found to have been modified beyond recognition. The rules of the bookkeeping system used by most college registrars are unusually complex and often irrational. A course in the major field may actually "count" as an elective course; a course in a field related to the major may "count" as part of the major; a lower division course in the major field may "count" a part of the breadth requirement; courses prerequisite to certain courses in the major "count" as electives even though they are in fact required courses. A study of actual student records proves the soundness of David B. Truman's judgment (1966): "What we label a curriculum too often can be called a structure only by courtesy." The president of Smith College (Mendenhall, 1966) believes the "mechanical device of the course and the credit" is a most formidable barrier to curricular change. The president of Goucher College (Kraushaar, 1966) thus characterizes the standard model: "The sacred 120 credit hours are still the measure of the educated man, and the guiding notion for the student is still a mechanical accumulation of credits."

Some institutions have attempted their escape from the chaos of "units" or "points" by substituting the course as the basic counting unit for the degree. If one looks at California alone, a score of institutions have moved in this direction. In 1964, the University of Santa Clara instituted a new bookkeeping system which requires freshmen and sophomores to study four courses per term while juniors and seniors study three courses per term (Terry, 1965). At the new California state colleges and at UCLA and other University of California campuses, courses now constitute the basic counting units. But even under these new plans, the requirements for the degree are still conceived in arithmetical terms.

The course credit system has created serious problems in articulation between institutions. Since a degree is given on the basis of credits or courses accumulated by the student rather than on the basis of knowledge he possesses, colleges have been obliged to set up a complex system of course "equivalencies." This system enables the college to determine which requirements a transfer student must still complete. A blatant example of a serious articulation problem caused largely by the artificialities of the credit structure is found in the field of foreign languages. The policy statement issued (1966) by the Liaison Committee on Foreign Languages--a statewide committee in California representing all levels of education--actually carries a section entitled: "The Credit-Hour Structure in Colleges: A Primary Source of Articulation Problems in the Language Field."

President Mendenhall of Smith College (1966) believes the best alternative to the credit hour system is the syllabus and examination system, which has a long and noble tradition among a few nonconformist institutions in the United States. These schools have provided the model which is being followed by a number of new experiments. For example, in a cooperative project worked out by Lake Forest College, Allegheny College, and Colorado College, 25 students at each institution go through four years of work without receiving either grades or course credits. Four faculty preceptors guide and supervise each group. Students' progress is evaluated by faculty members who are not in the program and by authorities brought in from other campuses (Cole, 1966). Wesleyan University inaugurated a similar plan. This is an interdepartmental major in which, according to the Wesleyan University Bulletin, "the customary pattern of formal classroom work gives way to colloquiums and group tutorials and a substantial amount of independent reading and writing. No tests are given or grades assigned. Comprehensive examinations, set and evaluated by an outside examiner, are given at the end of the junior and senior years."

A central feature of the dominant curricular-instructional model in the American college/university is the grading system. Under this plan, a "grade" is given to each student for each of his courses by the faculty member in charge of the course. If the grade is "passing" it constitutes "credit" which--under a complex set of regulations--may "count" toward degree fulfilling requirements.

Louis Benezet, the president of Claremont Graduate School, believes the obsession with grades prevents students from learning. Benezet feels it is possible to interest students in intrinsic learning "once we rid ourselves of the ancient hobby of making book on each performance" (Woodring and Scanlon, 1963, p. 14).

President Cole of Lake Forest College points out (1966, pp. 46-7) that the grading system represents to many faculty members and students the equivalent on campus of the labor and management relationship in industry. The faculty represents management; the students, labor; grades are the equivalent of wages. It is the object of management to get the maximum expenditure of energy out of labor with a minimum of wages; it is the object of labor to get the maximum expediture of wages out of management with a minimum output of energy. President Cole observes that the grading system focuses great attention on what is essentially external bookkeeping. But, worse than that, it creates a kind of rivalry between teacher and student and inhibits the teaching-learning process. It is, he points out, not the act of grading or evaluating the student that is the evil but rather the totally public nature of the act and the uses to which grades are put. Paul Goodman (1964), too, believes that college grading practices inhibit learning. And a student writing in the 1963 yearbook of one of the country's most prestigious colleges (Gilliam, 1963, p. 123-5) stated:

> The professor gives the grades and thus has the upper hand. The student who must present his transcript to the world in the future has no choice but to be cowed, no choice but to work like hell and try to fool the professor into believing that what has been assigned has been done.... The whole academic set-up is turning from one of mutual endeavor to one of mutual deceit.

In an effort to combat some of the evils of the grading system, a number of colleges and universities have introduced a two-grade plan, "Pass" or "Fail." The new campuses of the University of California at Santa Cruz, Irvine, and San Diego began with experiments in pass-fail grading as soon as they opened their doors. California Institute of Technology has been evaluating a program in which only pass-fail grades are awarded in the freshman year. Cornell, Princeton, and Stanford followed by instituting a plan whereby one course per term outside the major field may be taken on a pass-fail basis. And hundreds of colleges across the nation have adopted a grading reform of this sort. Often (but not always) the plan is open only to students who have a grade-point average high enough to establish their seriousness of purpose.

Other colleges have adopted or seriously considered a plan involving comprehensive examinations. Among other advantages, comprehensive examinations permit greater curricular flexibility and more uniform grading standards. Moreover, the teacher-student relationship need not become contaminated by the grading relationship (Kurland, 1963; Arbolino, 1968; Dressel, 1961, pp. 253-300; Axelrod, 1968).

The credit and grading system characteristic of the current, standard curriculum model tends to reward a certain kind of student, the one whom Salvatore R. Maddi (1966) calls "the achiever." This is the kind of individual who stresses "action more than feeling, production more than contemplation, contractual relationships more than intimate ones, the well-defined and obvious more than the complex and ambiguous, and success more than understanding." He is the one to whom to give the "A" grades. Alfred North Whitehead (1954, p. 46) wrote that he was "profoundly suspicious of the 'A'-man. He can say back what you want to hear in an examination, and...you must give him his A if he says it back; but the ability, not to say the willingness, to give you back what is expected of him argues a certain shallowness and superficiality." Maddi (1966) tells us that a society "organized to foster achievers will probably show rapid progress in economic and technological development." For a society which is underdeveloped economically and technologically, this type of ethos, Maddi states, might be appropriate. But he questions its appropriateness for contemporary American society. Indeed, he fears that "unless some new or more comprehensive ethos has been developing all along, decline may ensue." And Winslow R. Hatch (1963) raises the general question in the title of one of USOE's New Dimensions in Higher Education pamphlets, What Standards Do We Raise?

SUMMARY

The standard model of undergraduate education has fostered uniformity in curriculum structure and depersonalization in relations between faculty and student and between student and student. The new models on the other hand, are seeking to create, even on the largest campuses, relatively small "primary groups" consisting of faculty members and students who develop close ties and who care about one another.

The standard model has set "breadth" in a student's education against "depth" and colleges following this model have ended by achieving neither breadth nor depth. The new models are finding meaningless in today's world such out-dated curricular oppositions as general education versus specialized education, breadth requirements versus major field requirements, liberal arts curricula versus professional curricula, transfer programs versus terminal programs. The new models have liberated themselves from these oppositions by discovering new principles of unity in undergraduate programs.

The standard model has built a wall between the campus and the surrounding community. It has relegated campus-community relationships to the extracurriculum and has thus isolated the curriculum from the world outside. The new models are trying to break down the classroom walls and combine books with direct experience to build a new kind of curricular structure. The new curricular models attempt to reunite the campus with both the local community and the world community.

The standard model has been based on outdated and inaccurate notions of how human beings learn. It regards teaching primarily as telling, and learning primarily as receiving and repeating. In the whole process the student is normally and quite naturally treated as a kind of information storage and retrieval unit. Storage takes place during class and study sessions; retrieval takes place during examination sessions. The new models are attempting to redefine teaching and learning. They ask the professor to be, and act like, a learner, arguing that this is a way of becoming a better teacher. And they ask the learner to participate in the teaching process, arguing that this is a way of becoming a better student. In the new models, therefore, teaching and learning are seen not as different processes but as a single process of cooperative inquiry and the roles of the student in the student-professor relationship have been vastly changed.

In the standard model, the curriculum is grounded in the concept of number. Everything is by count: class hours, course credits, grade point. So many credits for so many hours for so many weeks for so many years, with a grade-point average not under such-and-such, yield the degree. The traditional counting system has made curriculum planning an impossibility, has destroyed the teacher-learner relationship, and has labeled those students "excellent" who turn out to be the best gamesmen. The new curricular models reflect dissatisfaction with the old grade and credit structure in all of its aspects. College administrators are trying to redefine excellence, to find new ways of appraising it, and to invent new ways of keeping records of it.

Because the old models for the undergraduate curriculum have been based on out-dated notions of how human beings learn, because they have fostered depersonalization in human relationships, and because they have demanded that the most important judgments about students be made by counting units and points, a pattern of freedoms and controls has emerged which is totally wrong. It is wrong because it moves contrary to the long-range educational goals every college professes. The old models have failed not because they have given the student too much freedom or too little but because the total structure of freedom and control, of authority and status, has been built on false principles. Thus, it is not in the quantity but in the total pattern of freedoms and controls that the new models differ from the old.

CHAPTER 3

THE CURRICULAR-INSTRUCTIONAL SUBSYSTEM: A THEORETICAL MODEL

Summary: This chapter describes the six basic elements of the curricular-instructional subsystem. Some of the interrelationships among these elements are then explored. In that analysis, fifteen basic questions are set forth and illustrated.

During the first six months of the project's existence, an analysis was undertaken of many concrete curriculum plans--both standard plans and experimental ones--as they are actually being implemented on a large number of campuses. As a result of this analysis, we developed a theoretical model which postulates that in the curricular-instructional subsystem of any college or university six elements are to be found. Three of these we call "structural" elements and three we call "implemental."

We use the term structural elements for those that are formally planned by a faculty group--i.e., those that have paper reality before they enter the world of existence. Each such element, in its paper reality, constitutes a set of potentials.

We use the term implemental element, on the other hand, to refer to an informal structure that is normally neither planned nor committed to paper. It is, rather, a set of conditions under which the structural elements come to be realized.

ELEMENT #1: CONTENT--THE FIRST STRUCTURAL ELEMENT

The first structural element encompasses the content of the curriculum--that is, the kinds of knowledge that are formally transmitted to the student as he moves from entrance into the system to his exit. The term "knowledge" is used here in the broadest sense, and may include facts and principles, skills and abilities, attitudes and values--in short, everything that a student (in any curriculum) is expected to acquire, master, or internalize in order to earn his degree.

There are three questions an investigator ought to ask about Element #1 for any given curriculum:

a) What sorts of knowledge are included? Among different kinds of knowledge are: facts, principles, concepts, theoretical frameworks, special vocabularies, intellectual and physical tools, sets of intellectual, manual (and other) skills and abilities, sets of attitudes and values (e.g., scientific objectivity or open-mindedness), etc. What principles determine which of these are included, and which are not included, in any given curriculum? Moreover, what principles determine which specific pieces of knowledge of each kind are included?

b) In what order is this knowledge to be acquired? On the basis of what principles is a long-range sequence determined? (E.g., does the student move from experiential data ultimately to generalizations, or does he move from general principles finally to analysis of specific problems?)

c) What levels of complexity are included? What principles determine how a course at one level of complexity is to be distinguished from a course of similar content at another level of complexity? (E.g.: How does a lower division course in Shakespeare differ from an upper division course in Shakespeare?)

An investigator exploring Element #1 may also wish to look into the relationship between (1) the ways faculty members are grouped and divided in the college organization and (2) the way the curriculum is divided--since such divisions of knowledge are closely related to problems of departmentalization and specialization. Above all, the investigator will wish to explore both (a) the principles that give unity to the curriculum and those that allow it to have variety and diversity and (b) the mechanisms by which each student's formal education is similar to that of every other student and is also differentiated from that of every other.

ELEMENT #2: SCHEDULE--THE SECOND STRUCTURAL ELEMENT

The second structural element encompasses the "scheduling system," i.e., the arrangements by which groups of learners gather together with one or more college officers to take part in the teaching/learning process. Groups of learners, in certain curricular-instructional designs, may meet for certain learning purposes *without* a college officer; when such a feature is an integral part of the plan, it should of course be included in the description of the design, together with a listing of the principles which differentiate between those student group meetings at which college officers (faculty members, personnel officers, teaching assistants, laboratory personnel) are present, and those at which college officers are not present.

Although the major question for the investigator can be stated quite simply, it remains enormously complex: In the scheduling system for each given curricular-instructional design, which students and teachers get together with which, when, how often, where, and for how long? Included in this question is a deeper one: What principles determine why the scheduling design has taken one particular shape rather than another?

A description of any given scheduling system would include all arrangements regarding space, time, and logistics for those activities that are part of the educational process yielding the degree. As an example, one would wish to consider whether the curricular-instructional design includes classes (or other group meetings of students or faculty) during evening hours as part of the regular instructional "day," or whether there are in fact two separate institutions on the campus, a day-school and an evening-school. The distinction in that illustrative question suggests a further question, involving interrelationships between Element #2 and Element #1, as to whether degree requirements in a day and evening school, where they exist as separate programs, are the same or different. At one of the colleges we have included in our study--viz., Golden Gate College in San Francisco--one projected plan now being studied by the Trustees calls for a new design that would affect degree programs for full-time day students while the evening school would retain its present form. But this discussion anticipates the next section of the chapter, which deals with interrelationships among the six elements.

Element #2 includes not only the design of meetings of student groups and of student-faculty groups for curricular-instructional purposes, but also the meetings of faculty groups for purposes such as planning and evaluating curriculum, discussing instructional problems, and orienting new faculty into the curricular-instructional subsystem. These are all part of the "scheduling system." So is the complex issue of "independent study." And descriptions of each specific model or design would indicate the degree to which such matters are treated explicitly and systematically, or casually and informally.

Exactly the same considerations apply to individual conferences between instructors and students, the scheduling of learning "spaces" in sciences and language laboratories, self-learning centers, libraries, music practice rooms, art studios, etc. And again, the same questions arise with respect to the scheduling of campus or off-campus events (a film, play, concert, rally, field trip, etc.) whenever they are not purely extra-curricular but are used by one or more instructors as part of the curricular-instructional process.

Element #2 thus includes the entire time-space-logistics dimension of the curricular-instructional subsystem. This element may take many different "shapes," depending on whether one set of principles or another is adopted. For example, if such a principle as block-scheduling of classes is adopted--or the principle of the "primary group" (see Chapter 2), or community-oriented programs (see Appendix C), or independent study as more than an occasional casual procedure, or a "reading period" in the middle of a semester or quarter, or a work-study plan, or the introduction of freshman seminars--the shape of Element #2 will be seriously affected.

ELEMENT #3: CERTIFICATION AND GRADING--THE THIRD STRUCTURAL ELEMENT IN THE SUBSYSTEM

This element includes all of the arrangements by which students are judged to be of better or worse "quality" periodically during their progress toward the degree, and finally certified as having fulfilled the minimal quality requirements for the degree. This process usually involves a "grading" procedure, much like the one used for meats, and for much the same purposes.

The main questions for the investigator of Element #3 are these:

> Who performs the judgments that are needed? (The man who also carries out the teaching function? An individual, or agency, external to the teaching process? If so, an on-campus or off-campus individual or agency? The student himself? A group of peer students? A student-faculty committee?)
>
> When and how often are these judgments performed? On the basis of what procedures? (Quality of a "bluebook"? Time, effort, and energy spent in a course of studies? Demonstration of level of ability through "performance" tests?)
>
> Finally, on the basis of what principles are particular procedures adopted, rather than other sets of procedures, for grading and certifying students.

Currently there is no accredited senior college, or university, in the United States which does not award a certificate or degree at the successful conclusion of specific curricula. Although, as we shall mention in Chapter 4, there is now some talk, in certain experimental settings, of "abolishing" the degree, this is hardly possible within most varieties of both standard and non-standard curricular-instructional models. And as long as the degree exists, there must of course also be some procedure for determining who receives it and who does not.

Further discussion of these problems is presented in Chapter 4, which is devoted to an analysis of various aspects of grading and certification.

RELATIONSHIP BETWEEN STRUCTURAL AND IMPLEMENTAL ELEMENTS

The three structural elements, just described, remain static entities--a part of the world of paper reality only--until they combine with the three implemental elements. The structural elements, as conceived in our theoretical model, are sets of limitless numbers of potentials. That is, if one contemplates how many different possible _specific_ frameworks there must be for selecting and ordering curricular content, or for scheduling times, spaces, and people, or for grading and certifying students, he must conclude that the number of different _concrete_ possibilities for each one of these is, for all practical purposes, without limit.

This number of possibilities is without limit, however, only in the theoretical model; as soon as any one of the structural elements is "designed" and enters the world of paper reality--that is, as soon as it is conceived in specific terms for implementation on a given (real or imagined) campus--the element takes on a specific _nature_. Its nature is determined, of course, by the answers to the questions we have suggested in our discussion above. Once such a nature is specified, then the number of possibilities for concrete implementation is, naturally, vastly reduced. Nevertheless, more than a single concrete possibility clearly remains. Thus, the _same_ paper curriculum (at two California state colleges, for example), may turn out to be quite different if one were to describe them in their concrete manifestations on each campus. Why do such differences arise? It is because of differences between one or more of the implemental elements in the curricular-instructional subsystem, as it actually operates, from day to day and minute to minute on each of the campuses.

To summarize: The structural elements, once they are given paper reality, are sets of potentials whose realization is limited by their nature; nevertheless, several (or many) possibilities for realization exist. The number of such possibilities for the realization of each element is, however, further reduced by the conditions under which the element comes to be realized. These conditions are set by the three other elements, the ones we are calling implemental. When all six elements combine, the total dynamic process that is the curricular-instructional subsystem enters the world of existential reality; at that point, of course, needless to say, only one of the earlier possibilities for realization, in the case of the structural elements, takes on concrete existence.

We are now ready to consider the three implemental elements.

ELEMENT #4: FACULTY/STUDENT INTERACTION--THE FIRST IMPLEMENTAL ELEMENT

This element encompasses the relationships between each member of the teaching/learning group and all other members of the group--i.e., relationships of three sorts: (a) between the faculty member (or the several faculty members, if there are more than one in the group) and each student; (b) between each student in the group and every other student; and (c) between the teaching/learning group itself, as an organismic entity, and each of its members.

The investigator, in describing and analyzing this element #4 must discover what roles are played: teaching and learning roles, leader and follower roles, cohesive and disruptive roles, father and mother roles, authority roles, and all other sorts of relevant roles; when they are played, and by whom; how they are manifested; whether they change or remain relatively constant; and if they change, for what reasons and under what circumstances.

Chapter 5 is devoted to a discussion of faculty-student interaction. In addition, Appendix A and Appendix B present case materials illustrating Element #4.

ELEMENT #5: STUDENT EXPERIENCE--THE SECOND IMPLEMENTAL ELEMENT

This element includes the student's relationships to the world that exists outside of the classroom--i.e., the world that exists outside of the teaching/learning groups of which he is formally a member. We do not include the extra-curricular world, for that is not part of the curricular-instructional subsystem; we include, however, every relationship in the world outside the student's actual classes that he is required to enter as a part of the expectations set by the "shapes" of Elements #1, #2, and #3.

A formal way of posing the basic question here is as follows: What relationships come into being between (a) the student and (b) symbols, objects and people (in the world that exists outside the teaching/learning groups of which the student is a member) as a result of the demands of the curricular-instructional process?

The investigator would ask what sorts of experiences the student is expected to undergo. For example: Does he undergo only book-oriented experiences? What is the role of experiences with media other than the printing press--film, TV, computer, etc.? What role do objects (other than study materials) play? What is the role of experiences with human beings other than faculty or other students? The role of the community surrounding the campus in the student's experiences? Of deviant cultures and of foreign civilizations? What place do nonverbal and irrational phenomena have? Or is the student expected to work entirely within conceptual and rational frameworks?

In analyzing the character of Element #5, as it manifests itself in a given curricular-instructional process, the investigator might devise checklists containing items such as this:

> A community experience that involves the student's relating himself to people other than faculty or other students is:
>
> a. required by the curricular-instructional process.
> b. encouraged - but not required - in the process.
> c. permitted - but not encouraged - in the process.
> d. not permitted - as part of the curricular-instructional process, i.e., relegated to an extracurricular activity.

Appendix D presents some illustrative material intended to illuminate some of the dimensions of Element #5.

ELEMENT #6: FREEDOM/CONTROL--THE THIRD IMPLEMENTAL ELEMENT

Element #6 encompasses the authority/responsibility syndrome. It involves questions of governance and student participation in decision-making--insofar as these questions apply to the curricular-instructional subsystem. A description of Element #6, as it manifests itself concretely on a given campus, includes the role of students in (a) helping to plan curricula, (b) participating in the process of approving new courses, (c) participating on decision-making committees dealing with personnel questions (e.g., the hiring or firing of faculty).

The problem of a Black Studies Curriculum which is now looming large on many campuses, often leads to campus struggle and disturbance. The reason, generally, is not because there is disagreement among campus power groups as to the content of a Black Studies Curriculum (Element #1); it is usually because of a difference in point of view, between black student groups and administrative officers, about the decision-making process as it relates to responsibility in the planning and implementation of the curriculum (Element #6).

The basic questions here for the investigator are:

- In the curricular planning process, who has (or takes, or is given) responsibility for making what decisions?
- On the basis of what principles is this responsibility given (or taken)? That is, what principles determine who decides what?
- Who has (or takes, or is given) power over which aspects of the implementation of a curricular plan? Specifically what role do students, faculty, administration play?
- Who rewards and punishes whom, for what reasons, and through what instruments?

Another way of asking these questions is to explore the mottoes "freedom to teach" and "freedom to learn," as these are being used in the current campus power struggles among the various campus factions now locked in confrontation on many campuses.

EXPLORING INTERRELATIONSHIPS AMONG THE MOVING PARTS OF THE MODEL

The theoretical framework must now move in two directions simultaneously. An attempt must first be made to describe the individual elements in detail (such as is illustrated by Chapters 4 and 5--where Elements #3 and #4 are explored). Basically, this process must begin by an analysis of the elements--the moving parts of the model--in terms of their possible shapes.

Secondly, an attempt must be made to investigate how each element moves in relation to the movements of the other five elements--i.e., to discover which shapes "go" with which others. As illustration, let us assume for a moment that each element is capable of taking a dozen different shapes. For Element A, let us say, it so happens that six of these shapes are attractive and six are unattractive to a faculty planning a new academic program. One of these is Shape 4, which the planning group contemplates adopting. Upon analysis, however, it turns out that Shape 4 for Element A limits the possibilities for Element B to Shapes 7 and 9 only--and neither Shape 7 nor Shape 9, for Element B, the planning group decides, is acceptable to them. The result is that Shape 4 for Element A, regardless of how attractive it appears when it is considered per se, must be rejected.

Such an analyses forces the investigator to ask certain questions about the connections between each of the elements in the curricular-instructional subsystem and all five of the others. As an initial step, he would have to ask fifteen questions about these interrelationships. These fifteen questions can be seen at a glance in Chart 1 given on the next page. Each question has two parts, one of which appears above the diagonal and the other of which appears below the diagonal.

In the paragraphs which follow, a preliminary formulation is attempted for each of the fifteen questions appearing in Chart 1.

Question 1: Interrelationships Between Element #1 (CONTENT) and Element #2 (SCHEDULE). Let us imagine that on a given campus, the General Education committee recommends a shift in the general humanities course from an exclusive concern with the history of civilization to an emphasis on creative activity. This decision constitutes a sharp change in Element #1. What effect does this change have on the time and length of class meetings in the course, the number

CHART 1

THE FIFTEEN MAJOR QUESTIONS

	Interrelationships between ELEMENT					
--and ELEMENT	#1 CONTENT	#2 SCHEDULE	#3 CERTIFICATION	#4 INTERACTION	#5 EXPERIENCE	#6 FREEDOM
#1 CONTENT		1	2	3	4	5
#2 SCHEDULE	1		6	7	8	9
#3 CERTIFICATION	2	6		10	11	12
#4 INTERACTION	3	7	10		13	14
#5 EXPERIENCE	4	8	11	13		15
#6 FREEDOM	5	9	12	14	15	

of students assigned to a teaching/learning group, the qualifications of faculty, the disposition of faculty, the use of workshop space, etc.? In more general terms, how does a specific course content affect specific arrangements in scheduling time, space, and personnel?

Or, conversely, let us suppose a set of experimental courses is being designed for freshmen students but the designers of those courses assume they are expected to work within the scheduling framework that already exists on the campus. How does that expectation limit the possibilities that they might wish to consider?

These are the sorts of problems that Question 1 involves.

Such problems can be specifically illustrated by a case brought to the Danforth Workshop on Liberal Arts Education in the summer of 1968. One of the liberal arts college teams participating in the workshop reported that their institution had run into difficulties in its attempt to reform the freshman composition course. In the summer of 1967, the college had decided to replace its plan for teaching English composition to freshmen, Plan X, with a new plan, Plan Y. But Plan Y had not "worked" and the Workshop team proposed to discover what had gone wrong.

Analysis revealed that although the English staff did not like Plan X, it did have one undeniable advantage: it fit the standard schedule system perfectly. Plan X was possible of realization - and even of achieving "excellence" within its limited range - with 50 minute, three-times-per-week periods. Plan Y, on the other hand, required for its realization a combination of different class periods - e.g., 30-minute sessions for certain of its purposes (those that could best be met by drill-type exercises) and three-hour sessions for certain other purposes (specifically, those that could best be met by arranging weekly panel discussions in which figures from the off-campus community participated).

But this was by no means the whole story. For its realization, Plan X required for space nothing more than comfortable meeting places on campus; almost any type of room would do. Plan Y, however, for certain of its sessions, required several kinds of space, both on campus and off, designed for small-group give-and-take. Moreover, while Plan X involved only the grouping of freshman students, Plan Y involved seniors as well, for it required each senior in the English Department to meet with a group of freshmen in seminar as part of the senior's own work. And further, Plan X required only one faculty member per student group, while Plan Y, for certain of its sessions required more than one ("faculty panel" sessions, for example) and for certain others none at all.

Plan Y had been adopted with enthusiasm, but it lasted for only one year. The changes in the conception of CONTENT (Element #1) required changes in SCHEDULE (Element #2) to which the whole system, it turned out, could not accommodate itself. It is thus often the case that the limitations of one element in the curricular-instructional subsystem reduce the possibilities that are effectively open for adoption by a faculty that wishes to reform its curriculum and its teaching strategies.

Question 2: Interrelationships between Element #1 (CONTENT) and Element #3 (CERTIFICATION). Chapter 4 of this Report, devoted to an analysis of grading and certification, discusses the extent to which grading pressures and requirements on the instructor--that is the instructor's desire for objectivity and fairness, his need to collect "hard" data on each student, and so on--can influence class assignments and other aspects of the content of a course. Such a problem illustrates a central aspect of Question 2. Other aspects of the question are also discussed in Chapter 4.

Question 3: Interrelationships between Element #1 (CONTENT) and Element #4 (INTERACTION). This question probes into the relationships between the kind of knowledge transmitted and various instructional strategies that might be appropriate. For example, drill may be the appropriate strategy for the transmission of certain kinds of knowledge while inquiry may be appropriate for certain other kinds; what precisely are the implications of such relationships between content and teaching strategy for teacher-student and student-student interaction in the classroom? Such problems are explored in Chapter 5 of this Report.

Question 4: Interrelationships between Element #1 (CONTENT) and Element #5 (EXPERIENCE). This question asks about the way content might determine the kinds of experiences the student is encouraged to undergo. For example, imagine a course dealing with a foreign culture that is primarily concept-centered, consisting essentially of facts, principles, concepts, special vocabularies, and theoretical frameworks formulated by scholars in the field and presented to the student via the printed page or extensions of the printed page, e.g., formal lectures. In such a course, the primary experiences to which the student exposes himself are probably of the following types: memorization, reasoning, perception of logical relationships, verbalization, inquiry, problem-solving.

Suppose now that certain kinds of direct experiences with the foreign civilization were to become readily available--for example, physical accessibility to the foreign culture becomes easy to arrange. Is the course content altered to accommodate itself to these new conditions? For example, does the new content require direct experiences with the foreign culture as part of course work? In many institutional frameworks, this sort of change is possible only at a superficial level. For example, at a recent conference, a director of a program abroad took pains to show how "academic" his program was; he pointed out how much time students in that program spent in libraries, museums, study sessions, and classrooms at the foreign university. When he completed his description, he had persuaded the audience that the students in the program spent so much time "working" on their academic courses and studying alone in their rooms, they had no time for anything else, e.g., casually talking to people other than fellow students, participating in the social events of the foreign community, exploring "life," etc. This kind of book-oriented program can make such great "academic" demands on students as to leave them little opportunity to take advantage of their location in the foreign culture; that pattern is in contrast with the sort of program, like the ones carried on in Germany by Willi Strothmann's NDEA Institute students, or in France by Lawrence Wylie's students in his French civilization course at Harvard, where the students work on demographic, legal, literary, historical, anthropological, or political questions directly in the community. In such models, the content (Element #1) of their studies is planned in such a way as to require that the student make contact with the people who live in the community.

This is an illustration then, of the way in which Element #1 can be influenced by Element #5, and vice versa.

Question 5: Interrelationships between Element #1 (CONTENT) and Element #6 (FREEDOM/CONTROL). This question raises such problems as the degree to which students participate in the general planning of curricula, the setting of degree requirements, the structure of courses, etc. These questions apply on two levels: (a) relating to the student body in general and (b) relating to students as individual degree seekers and course participants.

This question constitutes the core of the "Black Studies" controversy that is now raging on a number of urban colleges and universities (and some non-urban institutions such as Antioch College).

Question 6: Interrelationships between Element #2 (SCHEDULE) and Element #3 (CERTIFICATION). This question probes into a whole host of problems related to the grade-and-credit system--e.g., the relationship between credit and class attendance, between class attendance and course grade, between course tests and course grade, etc.

The question also invites exploration into the problems surrounding examinations themselves: What are the best "conditions" under which students should be asked to demonstrate their ability to perform? What are the advantages of individual versus group examinations? What is the place of the take-home examination? What are the appropriate steps to prevent cheating on examinations? Etc.

Question 7: Interrelationships between Element #2 (SCHEDULE) and Element #4 (STUDENT-FACULTY INTERACTION). This question includes all of the issues relating to the relationship between student-grouping and teaching strategies--e.g., class size or block-scheduling of classes (and their effect on interaction between and among the members of the teaching/learning group). The principle of the "primary group" as elucidated in Appendix C is germane to these issues. Question 7 also invites exploration into faculty schedules and their effect on teaching/learning groups--for example , the possibilities in co-teaching or in the use of faculty panels.

Question 8: Interrelationships between Element #2 (SCHEDULE) and Element #5 (STUDENT EXPERIENCE). If "direct experience" is considered desirable, in addition to experiences with books and book-like objects (e.g., lectures, live or by kinescope)--then how are such direct experiences to be scheduled? If they are not actually scheduled, how are they to be controlled or supervised? If they are not controlled or supervised, how is the student to be given credit for them? (With this last problem regarding credit, we have crossed the line from Question 8 to Question 11. This very process exemplifies the close interrelatedness of these questions.)

Question 9: Interrelationships between Element #2 (SCHEDULE) and Element #6 (FREEDOM/CONTROL). To what extent is "attendance" in an educational activity required? For example, an activity taking place in a class, in an individual practice room (e.g., music practice), in a science laboratory, in a language laboratory, in a self-instructional learning center, in a library, in a museum, at a concert or play, at chapel, at a social event.

If attendance is required (or is not), on the basis of what principles has this policy been set? Have students participated in the decisions establishing the policy? If they have (or have not), on the basis of what principles are they asked (or not asked) to do so?

Question 10: Interrelationships between Element #3 (CERTIFICATION) and Element #4 (FACULTY-STUDENT INTERACTION). This question probes into various instructor-roles in the classroom. For example, in the standard model, are the "teaching" role and the "grading" role compatible or does the latter contaminate the former? In other words, does the instructor's role as teacher-critic interfere with his role as grader-judge?

This way of formulating the question is appropriate, of course, only for those curricular-instructional models where instructors play both roles; in those where the instructor plays only the role of teacher-critic while the role of grader-judge is relegated to another individual or agency, one would expect an analysis to show that the interrelationships between Element #3 and Element #4 are different. (But this is hypothetical only, as the subject has not yet been thoroughly investigated. See the discussion of this point in Chapter 4.)

Question 11: Interrelationships between Element #3 (CERTIFICATION) and Element #5 (STUDENT EXPERIENCE). This question explores the relationships between (a) course tests and grades and (b) experiences which students are encouraged to undergo as part of their education/training in those courses. Another way of stating the problem: To what extent does the formal reward system determine the sorts of experiences a student undergoes as he prepares his assignments for a given course--and vice versa?

Other aspects of this question: To what extent are paper-and-pencil tests appropriate in those courses where students have direct experience with real problems (a practicum in a social agency, or in a school, for example)? Are certain off-campus educational experiences, such as participation in community tutorial projects, given (or not given) academic credit? Work on such projects often carries no credit, as Chapter 2 points out, on the grounds that such experiences are not supervised by faculty, or that they do not have enough "intellectual" content. Question 11 invites an exploration into such practices and the principles which underlie them.

Question 12: Interrelationships between Element #3 (CERTIFICATION) and Element #6 (FREEDOM/CONTROL). The problem of grading standards and the "creative dropout"--which is one aspect of this question--is discussed in Chapter 4. The honor system for examinations is also part of Question 12, as in the practice of self-grading or group-grading by students.

Another aspect of this question concerns the role of student peers in the examination system--for example, the practice of a student body representative sitting on each oral examination committee (as is characteristic of the examination system in a number for foreign universities) to insure that no injustice is done the candidate by the examining faculty.

The following incident, which occurred at the University of Chicago some years ago, serves to illustrate an important aspect of Question 12. Frank, a freshman student in the College, was not prepared to take his quarterly examinations at the end of both the autumn and winter quarters that year (in spite of his advisor's pleas). At the beginning of the spring quarter, Frank was called into his advisor's office and told that he was of course within his rights not to take them--for under the grading system that then obtained, they were not "required" examinations, the quarterly grade serving merely as an advisory grade. Nevertheless, the advisor felt that it might be well for Frank to be placed on probation. "For your own good," he explained.

Frank agreed to this procedure and promised to work hard enough so he would be prepared to take two of his comprehensive examinations in June and two of them in August. We should explain that the comprehensive examination covered the entire academic year's work in a course. Students were free to prepare for the comprehensive examinations as they wished--by taking the course or by studying independently. The Advisor asked Frank if he wished to set those specific terms of probation for himself, viz., that if he did not pass two of his comprehensives in June and the other two in August, he would not continue his studies at the University. Frank agreed.

Frank more than fulfilled his terms of probation. He took the difficult comprehensive examinations according to the schedule he himself had set; and he made high scores.

During his sophomore year, the same pattern began to fulfill itself: Frank did not feel prepared to take his quarterly examinations at the end of the autumn quarter; nor did he feel prepared to take them at the end of the winter quarter. At the opening of the spring quarter, he appeared before his advisor and asked to be put on probation once again.

The advisor this time, however, refused to place Frank on probation, on the grounds that students ought not develop such a strong dependence on external coercion. The advisor thus insisted that Frank retain his freedom. (If he were not placed on probation, it would be up to Frank himself to decide to take one or more of his comprehensive examinations in June or to delay them all until August, or to delay one or all until the following December, March, or June.)

On hearing his advisor's refusal to place him on probation, Frank was beside himself. He said, "But I am requesting to be put on probation. I'll never make it alone. I need that help!"

The advisor replied, "I'm sorry. I am refusing your request."

Frank looked grim and said, "I shall petition the Dean of Students."

He did so, and the Dean of Students confirmed the advisor's recommendation. Frank was not put on probation. He went through a period of considerable anxiety (as did his advisor, also), but he took two of his sophomore comprehensive examinations in June and two in August of that same year, making high scores on all four.

Question 13: The interrelationships between Element #4 (FACULTY-STUDENT INTERACTION and Element #5 (STUDENT EXPERIENCE). What sorts of student experiences are emphasized in the interaction between teacher and student (and between student and student) in the classroom? The reader will find, for example, in Appendix B, a transcript of a class session taught by Dr. Abbot, a type of instructor characterized as an "abilities-centered" instructor (described in Chapter 5). The transcript shows how much Dr. Abbot emphasizes intellectual skills and abilities; these are the behaviors in students he encourages and urges the group to reward. As Chapter 5 makes clear, however, another instructor-type (characterized there as the "group-person-centered" instructor) emphasizes a rather different range of experiences, and those are the ones he encourages in his students and urges the group to reward.

Question 14: The interrelationships between Element #5 (FACULTY-STUDENT INTERACTION) and Element #6 (FREEDOM/CONTROL). This question investigates the "freedom" of a class atmosphere: Is there just a single authority figure (the faculty member) or do various students, too, play the role of authority figure at various times? Does the instructor refuse, at certain times, to play the role of authority figure? Is the instructor a member of the group, or, does his role as teacher place him outside of the group, not subject to its pressure and influences?

Chapter 5 discusses this question in some detail, especially in connection with the teaching style represented by Dr. Perse--the instructor described in Chapter 5 as typical of the "group-person-centered" instructional style.

Question 15: The interrelationships between Element #6 (FREEDOM/CONTROL) and Element #5 (STUDENT EXPERIENCE). This question covers a whole range of problems: To what extent does the individual student in a group assume responsibility for undertaking and carrying through off-campus project--if he is in a course where such activities are a required part of the course work? Do subgroups within the teaching/learning group share such responsibilities (say, in joint projects)? How is the problem of supervision of projects solved, especially in those cases where the project is not institutionalized in an off-campus agency?

In a work-study program, how is student responsibility/freedom adequately encouraged, and subsequently judged? (This last problem spills into Question 12.) When a student wishes to have a direct experience with the off-campus world--for example, with a deviant culture--as part of his work for a particular course, how should controls be exercised? Let us illustrate this problem. A freshman student, in one of the experimental programs we investigated, undertook as a project a "study" of sex practices among employees on board a passenger ship. He worked for a few weeks on the ship as a dishwasher. In his report to his classmates, based on his direct experiences and on "book research" as well, he stated that he had not engaged in sex practices himself as part of his study but had been able to gather his information systematically by a modified "interview" technique. He also stated--this in itself is an interesting point--that he undertook this project with the knowledge and permission of his parents.

Thus Question 15 explores the interrelationships between any given freedom/control syndrome pervading a campus (Element #6) and the range of experiences that are encouraged and rewarded as students make their way toward the degree (Element #5).

GOING BEYOND THE FIFTEEN QUESTIONS

If each of these fifteen questions, suggesting the exploration of interrelationships between only two of the elements in the subsystem, is so complex it is staggering to contemplate the task of analysis that awaits the investigator as he tries to analyze the whole scheme. For he must ultimately shed light on the interrelationships between and among all six elements as all six of them simultaneously interact when the model is in "motion."

But even as he makes that analysis, the investigator must constantly be on guard against looking at the curricular-instructional subsystem as an independent universe. As stated in Chapter 1, the curricular-instructional subsystem is part of networks of larger systems and it, in turn, is affected by them. And those interrelationships, too, are exceedingly complex.

The most important feature is the constantly dynamic quality of the total, which makes cause-and-effect relationships so difficult to trace. Organizational charts nothwithstanding, change does not take place linearly. To envisage how it does take place, the reader may imagine a hydraulic system of many interrelated pipes filled with liquid: any increase in pressure anywhere in the system increases the pressure on all other parts of the system, often forcing a break in areas where it may be totally unexpected. (As an example, the consequence of inserting a new freshman curriculum into the "system" may result in a new statement on tenure or promotion practice, or a new advising system.)

With that image in mind, we now move to more detailed consideration of two of the six elements. Chapter 4 focusses on certification and grading, a pivotal structural element. Chapter 5 focusses on faculty-student interaction in the teaching/learning group, a pivotal implemental element.

CHAPTER 4

ANALYSIS OF A STRUCTURAL ELEMENT

The Pivotal Role of Element #3 (Certification and Grading)

Summary: Chapter 3 analyses in some detail how Element #3--the whole "system" of certification and grading--interrelates with several other elements in the curricular-instructional subsystem, each affecting the shape of the other. After an introductory section, the chapter analyzes the sources of dissatisfaction with the standard grading system, discusses briefly attempts at reform in grading patterns, and presents research findings on the degree to which grades provide a reliable index to other dimensions of a student's work or life. The next two sections of the chapter analyze interrelationships between Element #3 and two other elements of the subsystem: #4 (Faculty-Student Interaction) and #1 (Curricular Content). The final section presents case materials relating to some problems facing a director of an experimental program using Pass-Fail grading.

One has only to listen to discussions about the possibility of carrying out a college program without certification and grading, to realize how far respectable opinion has moved on this subject during the last decade. Judson Jerome, the director of the "Inner College" program at Antioch College, wrote recently in Life (1968, pp. 68-9):

> If schools and colleges got out of the certification business, they might be able to educate more forcefully--leaving the testing to prospective employers and graduate schools....

Jerome asks whether colleges should grant degrees at all. If we stopped granting degrees, he asks, and merely provided transcripts, would it make any practical difference to graduate schools or employers? He believes it would not. It would, however, make an enormous difference to the colleges, he claims, for the college degree

> is the keystone of the arch, and perhaps the one we ought to remove first if we plan any serious rebuilding. ... If the degree is only a political agreement among faculty contending for a student's time, we have a moral obligation to undermine it.

To the average faculty member, the idea of a college without degrees is as incomprehensible as the concept of a curriculum without courses--which means it is as impossible to conceive as a house without any walls or a table without any legs. So "conditioned" are most faculty today to the structure of the standard model, they assume it to be the natural and only possible structure for educational activity.

A case in point is the "normal" distribution curve which has provided the basis for the standard system of grading students. As Benjamin S. Bloom remarks (1968, p. 2): "We have for so long used the normal curve in grading students that we have come to believe in it." Bloom points out that there is nothing sacred about the normal curve; it is simply the distribution most appropriate to chance and random activity. But, he goes on to say, education is a purposeful activity; hence, it is logical to conclude that "our educational efforts have been unsuccessful to the extent to which our distribution of achievement approximates the normal distribution" (p. 3). Instead, however, of taking it as a possible sign of success when an instructor's grades show a preponderance of A's and B's in an undergraduate course, the conclusion we all come to is that the instructor must be "soft" in his grading practices, that he is too lenient; and, on most college campuses, if such an instructor is not called to order by a college-wide or departmental Committee on Grading consisting of his peers (or a Committee on Standards), he would surely be spoken to by his department chairman.

Yet, dissatisfaction with the grading system has been mounting in recent years. In Chapter 5 of this report, which discusses teaching styles, we will discover that the current standard grading and certification pattern "fits" certain teaching styles better than it does others; our data, however, show that even among those whose styles the pattern "fits" fairly well, there is great dissatisfaction with current grading practices. Let us examine some of the evidence of this dissatisfaction and some of its major causes.

DISSATISFACTION WITH THE STANDARD GRADING SYSTEM

Distrust of the common assumptions behind the standard grading system has sharply increased in recent years on American campuses. The evidence indicates that both students and faculty have lost faith in traditional grading practices. In a study involving over 2,500 Berkeley students, it was discovered half of the students did not believe that grades reflect, even "fairly well," a student's accomplishments in a course. Surprisingly, the students with the highest grade-point average, that is, those who were most rewarded by the grading system, did not think well of it. The Muscatine Report, Education at Berkeley (1966, p. 95), voices particular concern about the opinion of the honors group:

> When two-fifths of an honors level student sample expressed such significant disbelief in the system which rewarded them, it is surely time to reconsider not only the grading system itself, but the increasing emphasis which we are pressed to place upon it.

The attitude of many "successful" college graduates toward the grading system--using as the criterion of success acceptance by a prestige graduate school--is reflected in the following passage, taken from an interview with a Stanford pre-medical student who later gained admittance to one of the country's prestige medical schools. In response to a question about the sorts of things that had annoyed him in his undergraduate years, the student said (Korn, pp. 285-6):

> The system at Stanford as far as grades go. ...I don't think these things are conducive academically. ...I've talked to professors about this and they don't seem to know any other way. ...But I think without grades I could have done a lot more in school than I did. ...It's a funny thing--you have to decide whether you're going to play the game. And if you want to go to medical school, for instance--- Even if I had these beliefs that I wasn't going to study for grades and all, I'd still have to play the game and get good grades, or else my application would come in with another guy's whose grades are a little better...so I am sort of being forced into playing a game which I was not sure I really liked--in fact, I know that I didn't want to play.

Countless cases of such individual complaints can be cited. But what is even more important is the increase in group protests on American campuses about courses and grades. In a 1964-65 survey of 849 accredited four-year institutions (Peterson, 1966), 27% of the colleges reported that student protests had taken place over issues involving the curriculum and instruction, testing and grading. The same survey showed 38% of the colleges reporting student protests over the issue of civil rights; and Joseph Katz, in citing these data (1967, p. 574), comments that while students in 1964-65 appeared to be "mobilized in larger numbers over political issues than over educational ones," he and his colleagues at the Institute for the Study of Human Development believe the trend is now moving the other way: "It seems that larger numbers of students have become involved in educational issues and that these students are more representative of the broad mass of students." Peterson's latest survey (1968) indicates the trend may indeed be moving in this direction.

Student dissatisfaction with grades is coming to be more and more outspoken. Many students express the belief that the entire grading system is a "joke" that could not possibly be taken seriously were it not for their effect on draft status and entrance to graduate school. Thus the following comment about the grading system, which appeared in the Supplement to the General Catalog, issued in the spring of 1967 by the Associated Students of the University of California (Morton, 1967), is typical of student opinion:

> If the consequences of this system were not so potentially serious for you (draft board, graduate school, etc.), it could be regarded as somewhat farcical. ...After all the proposals for reforms in grading during the Muscatine Committee's deliberations, we are left with the same iniquitous system.

It is clear that these two pressures from without--draft status and admission standards to graduate school--have been powerful forces in maintaining the status quo. For it is not only the students who are dissatisfied with the grading system but faculty also. Only a small fringe of faculty would not feel empathy, and even identification, with the Berkeley professor who stated (Muscatine, 1966, pp. 96-7):

> ...Grading is a nightmare. I have found that I cannot mark with any pretense in fairness several hundred essays in the time allotted me. ...I have therefore taken to objective examinations demanding factual answers, while I dislike extremely but consider less unfair than badly marked essays.

REFORM IN GRADING PATTERNS

With faculty and students expressing such dissatisfaction it is perhaps astonishing that there has been such meager movement toward reform in the grading system. Still, some reasons are clear. For one, the draft classification of students and its tie-in with grades has made it difficult for faculties to consider tampering with the system. For another, dissatisfied as faculty members may be with the present system, the Berkeley study (Muscatine, 1966, p. 94) showed how difficult it is to find agreement on any system to replace it. But the most important reason is the intimate relationship between standard teaching procedures in higher education and the traditional grading system. As two elements in a single subsystem, any move to change one must be accompanied, if it is not to suffer gradual but continuous erosion, by appropriate changes in the other.

Although we have just referred to the "meager movement toward reform" in the grading system, we do not mean to belittle the efforts to introduce Pass-Fail grading on a number of campuses during recent years; even small gains are to be applauded. But except for a few daring campuses, the Pass-Fail option is used on so restricted a basis as to constitute almost no reform at all. Even on those campuses where it is being used more widely--for example, for all courses during the freshman year--it seems to be far from the break-through on the grading problem which many dissatisfied faculty had been waiting for.

The newest development is a grading system adopted in the College of Creative Studies, University of California, Santa Barbara, which opened in the fall of 1967. This is the "variable-unit credit system." For each course the student receives either a 0, equivalent to a Fail, or any number of "credits" from 1 to 6; these are equivalent to a Pass. As the brochure explains (Mudrick, 1967-8): "A student may plan to do only 3 (or 1 or 2 or 4 or 5) units of work for the course by arrangement with the instructor; but in every case the instructor reserves the right to make the final determination of the unit value of the student's work in the course. Each unit of credit is counted toward graduation: 180 units of credit (under the quarter system) will qualify the student for graduation."

ARE GRADES A RELIABLE MEASURE OF GROWTH?

Do research findings justify the distrust which both students and faculty have for the traditional grading system? They do. Course grades have not been found to constitute a reliable index to any dimension--past, present, or future--of a student's work or life, except other school grades. There is universal agreement with the contention of Webster, Freedman, and Heist (1962, pp. 816-7) that a student's grade-point average is "an inadequate measure of educational growth"; and these authors present ten reasons which explain why grades are such an imperfect index.

If course grades in general do not accurately reflect educational growth, the relationship between grades and such traits as independence and creativity is even more distant. In his discussion of the Vassar study of faculty-nominated "ideal" students, Donald R. Brown cites the work of Getzels who, according to Brown, goes so far as to maintain that "high scores on standard multiple-choice tests and high grades both result more from a narrow and conformist interpretation of the test and/or demands of teachers than they do from creative and original behavior." And Brown comments (1962, p. 539): "In fact, creativity is penalized since the creative student is apt to give a highly original meaning to the question which in a machine-scored test or in the presence of a 'by the book' teacher will not be scored correctly or appreciatively."

In Brown's study of faculty-nominated ideal students, the Vassar faculty nominated 67 students as "ideal," indicating in each case the basis for their choice. The nominated group was classified according to a cumulative credit ratio, with 3 (corresponding to A-) as the dividing point. Fifty-seven percent of the nominees were above 3 and 43% below. (These proportions held, when the study was repeated the next year.) It was clear that to be nominated, a student had to be in the upper half of the class but clearly did not have to be an "A" student. Indeed, Brown reports that in some instances, though negative nominations were not requested, some students with unusually high averages were not nominated because--Brown thus summarizes the faculty letters about these cases (p. 542)--"the grades were achieved by techniques of manipulation, overconformity, or brute effort with any saving grace or real intellectual interest."

In Stuart Miller's recent review of the literature on this subject, every study he cites except one shows that grades and crativity are not positively related (1967, p. 19). The single exception is a study of engineering graduates from Purdue University; in that group, there is a significant relation between engineering graduates who register patents and their college grades. Other data show that in other groups, students who receive the better academic ratings turn out, according to their scores on personality tests, to be more conforming, compulsive, rigid, and insecure than the students receiving the lower ratings. Studies cited by Miller indicate that the sets of personality traits for "achievers" and for creative students have radically different configurations (pp. 19-20).

The causes for this phenomenon are undoubtedly complex. But one fairly direct and observable cause is quite clear. The more a student is capable of working independently, in the current standard instructional model, the more individual attention he demands from his professor. Most professors who give standardized courses prefer to do them efficiently in a fairly standardized way and do not give individual attention to such a student; indeed, they regard the student's demands as a sign that he is a _prima donna_--perhaps even a troublemaker. Having already created an unfavorable impression, the student with an original mind often makes matters worse by his performance on standard classroom tests. (This is because of factors earlier discussed, in the summary of Donald R. Borwn's study.) Moreover, the student with an original mind does not, usually, "respect" such tests and hence does not take them with proper seriousness. If he voices this attitude to the professor, which he often will not hesitate to do, he exasperates him even further.

INTERRELATIONSHIP OF ELEMENT #3 (GRADING) AND ELEMENT #6 (FREEDOM/COERCION)

Gerald Holton asserts (1963, p. 3) that many paper-and-pencil tests are expressly designed as high fences: "The horde that is turned away may be suspected not only of being too stupid to pass, but, much more importantly, too bright for the comfort of the examiner." To illustrate his comment Holton quotes from an autobiographical note of Albert Einstein who believed that learning cannot be promoted by means of coercion and a sense of duty. "This coercion," Einstein wrote, "had such a deterring effect that, after I had passed the final examination, I found the consideration of any scientific problems distasteful to me for an entire year." Faculty members on American campuses who allow this view, namely, that learning cannot be promoted by coercion, to influence their teaching and grading are often put on the defensive by "tougher" colleagues. The former are not only accused of being "soft" but--this is the acme of degradation for an academic man--of lowering standards. Their only answer to the "tough" professor is that his way of keeping standards high may--very likely does--do his students more harm than good. But such a response only emphasizes the chasm between the self-styled "tough" professors and the colleagues they label "soft." Mervin Freedman's experience with both kinds (and his studies of their students) leads him to the following observation (1962, p. 871):

> No one wishes to range himself on the side of opposition to high standards, but one cannot help wondering whether the emphasis on excellence that is so powerful an influence in academic circles these days may not serve to reenforce feelings of guilt and inadequacy rather than to stimulate outstanding performance or achievement.

Even if that were not the case, the professors or schools that are excessively "tough" are surely penalizing many of their best students. Illustrating this point is the case of two seniors, majoring in science at two different institutions. These data, by the way, are among those collected by Paul Heist for another CRDHE project.

Baker is about to complete his undergraduate program at a large, elite public university which accepts only the top eighth of high school graduates. Brown is completing his work at a small, highly prestigious private college that is known for its "toughness." Both are thinking about graduate school. Here are five scores for these two senior men:

		Baker's Scores (Elite public university)	Brown's Scores (Elite private colleg
a.	SAT - Verbal	600	680
b.	SAT - Math	720	750
c.	SAT - Total	1320	1430
d.	Intellectual Disposition (O.P.I.)	6	3
e.	Grade-Point Average	A	B-

If Baker and Brown were now to apply for admission to the same graduate school, who would be considered the more desirable candidate? Brown ought to be the more desirable because of his significantly higher verbal score and the appreciable difference in intellectual disposition. "This latter difference," Heist explained, in discussing these scores, "denotes a means-end orientation on the part of Baker as compared to potentialities for independent scholarship on the part of Brown." But in all probability, Baker's straight-A grades as an undergraduate at one of the nation's most elite universities would prove powerfully persuasive to many an admissions committee. Were the choice to be made between these two, it is thus quite possible that Brown would be rejected by the graduate school of his choice and that society might be the loser.

If this were to happen, where would the blame lie? With the graduate school admissions committee? Perhaps. But, surely, if one finger points in their direction, another must also point at the faculty responsible for Brown's college education; clearly, their assumptions and practices regarding grade distribution curves and academic standards are reflected in Brown's grade-point average.

In any case, the faculty and administration at the school Brown attends became alarmed at the large number of their highly selected students who were "not doing well" in their studies and were leaving college; and they sought the help of Heist and his associates at the Center for Research and Development in Higher Education. They did not know where the solution lay, but they seemed to understand the problem. They suspected that, given the high selection of students at entrance, the solution would not be found by focussing on the deficiencies of their students but possibly on the faculty's grading "standards." They felt the dictum set down by Summerskill in his report on college dropouts (1962, p. 637) made sense:

> Since the objectives of colleges are to educate and graduate the students they admit, academic failure must be viewed as a failure on the part of the institution as well as on the part of the individual student. When a student fails on purely academic grounds, he testifies to inadequate admissions procedures or inadequate instruction.

Since the school Brown attends has extremely selective entrance standards, it follows from Summerskill's dictum that the faculty must have been primarily responsible for such a large number of cases of students who were "not doing well." In one of his analyses of the problem, addressed to the college president and department heads, Heist pointed out that the majority of their entering freshmen made aptitude scores which, compared with the general population of high school graduates, placed these entrants in a narrow distribution above the 90th percentile. This was a group, then, who in the past had been chiefly or entirely rewarded for their educational attainments. Very few entered college with any anticipation of receiving C or D grades--for them, an obviously negative experience. It is true, Heist point out, that for some students of high ability, low grades serve as a positive stimulant, but for others, he says, "studies have shown that...a series of low grades seems to result in opposite effects." Such students, threatened with loss of face, and facing possible failure (as they or their parents and companions would define it), react in such ways as often to lead to "a form of underachievement or 'beating the system' and," Heist adds, "themselves."

What was the solution recommended to the college? The details are too complex to present here, but one dimension of it was stated quite simply by Heist in an unpublished report: "It is proposed that a rigorous grading system...merits serious reconsideration when the students involved are all mentally very capable and of a calibre that would qualify them as candidates for honors programs at most institutions of higher education. ...It would seem difficult to rationalize the use of a grading system (or grade distribution) that is employed at...the majority of colleges and universities."

THE GRADING SYSTEM (ELEMENT #3) AND ITS RELATIONSHIPS TO FACULTY-STUDENT INTERACTION (ELEMENT #4)

The case of Baker and Brown illustrate how the traditional grading system (Element #3) interrelates with the freedom-responsibility syndrome (Element #6). We shall now explore some facets of the interrelationships between Element #3 and Element #4 (Faculty-Student Interaction).

In his relationship to students today, the typical professor on the vast majority of American campuses is expected to fulfill two vastly different roles. He is a "teacher-critic"; and he is also a "judge."

The professor's teacher-critic role (assuming he is a real teacher and not merely someone who tells what he knows) presses him toward a personal relation with his students; but his role as judge, rewarding and punishing his students, pushes him in the other direction. One is able to teach a friend--indeed, it may not be possible to teach anyone unless he is a friend--but one cannot comfortably give a friend an F, certainly not in an age when an F may lead to induction in the army and possibly to death on the battlefield; it is easier if it is a stranger to whom one gives the F.

Many college teachers, having been caught in this conflict in their first years of teaching, grow wary of showing (or of encouraging) any sign of friendship, or even friendliness, between himself and his own students. It may be all right with other professor's students, but not one's own. And the plain fact is there: it is easier, and no doubt fairer to everyone, when grading time comes around, if one has been impersonal with all one's students. Thus, to use David Riesman's word (1964), the grading relationship tends to "contaminate" the teaching relationship. The reverse is also true: an instructor who plays a certain kind of role as teacher will lose his capability of conforming to the grading rules and procedures.

Both of these processes can be illustrated from our interviews. One of the faculty members we interviewed--let us call him Dr. Harrison--told us that he was "proud" (that was his word) of having given one of his best students a C as his course grade. He explained that the level of Powell's performance in the course was equal to that of other students to whom he gave the grade of A.

"Why didn't you give him an A if he deserved it?" we asked.

"Powell didn't deserve it," Dr. Harrison said. "He didn't work hard enough."

"But you just said his work was of A calibre."

"It was," Harrison replied, "but you see, he hardly had to lift a finger to turn out that kind of performance. He did everything effortlessly."

As we discussed Powell's case, Dr. Harrison became angry when he described Powell's "casual attitude" toward his class. He blurted out:

"No student of mine is going to get away being a lazy slob if I can help it! *I won't let him get away with that.*"

In the conversation that followed, it became clear that Harrison, in his capacity as *judge*, paid less attention to the student's level of achievement at the close of a semester than to certain other criteria of almost a "moral" nature, e.g., how "hard" the student worked, the amount of time, effort, and energy the student spent in working for the course, etc.

During our interviews with him, we attempted to explore Harrison's philosophy further. We do not wish to oversimplify his point of view, for he was not a simple-minded person; but his attitude on this issue can be summarized approximately as follows. He believed that hard work is in itself a good, that learning *is* hard work, that hard work is necessarily painful (though it might result in pleasure in the long run), and that like all other painful activities, it was naturally avoided by everyone whenever possible unless external pressures compelled one to pursue it.

It became clear to us during our interviews why Harrison could not have given Powell an A. Holding those particular beliefs about effort and suffering, aware that in Powell's case a high level of performance had been reached with little pain, with only slight effort, and often with minimal expenditure of time, it was understandable that Harrison would not wish to give Powell the same grade he was giving other A-level students. They were being rewarded, to a considerable extent, for the pain, discomfort, and sacrifice they had undergone.

The case of Dr. Harrison and Mr. Powell illustrates how, when particular beliefs--for example, as in this case, beliefs about the nature of work--affect the grading of students, the instructor plays certain roles as judge which in turn must affect his roles as teacher and critic. A different attitude toward grading is illustrated by the case of Dr. Kaye, professor of philosophy at a large, public institution located not too far away from the college at which Dr. Harrison teaches.

During the course of an interview we held with Professor Kaye, we had occasion to meet a teaching assistant of Kaye's by the name of Morton who appeared to be a brilliant young man. After Morton left the office, Kaye told us that Morton was one of the best graduate students and teaching assistants he had ever had. He said there was an interesting story behind Morton's entrance to graduate school and asked if we wanted to hear it.

As an undergraduate, Morton had been, Kaye said, a "peculiar" student. "On the one hand," he explained, "I identified him clearly as a potentially A student--but he was doing only mid-B work in my class, or lower." It turned out Kaye was curious about the case for some reason; and when he looked into it, discovered this was the situation in all of Morton's classes. His other instructors, Kaye learned, also felt there was "something there" but did not bother probing further since Morton was doing B or B- work. They simply put it down as another case of a student "not working up to capacity."

"Such students are a dime a dozen around this place," Kaye said, "and nobody was particularly surprised at this one case or particularly moved to do anything about it. In fact, what needed to be done? Morton did not present a problem to anyone. Why should the faculty worry about him? We had enough on our hands with student discontent and everything else!"

Kaye himself, however, could not let the matter go. "I had a whole series of conferences with Morton," he told me, "and I saw that there was some kind of hang-up. There were such great flashes on occasion--and they were exciting when they happened. I knew the level of Morton's work was being kept down by some sort of unreal view Morton had of himself! He thought of himself as just a B- student--you know--incapable of ever getting an A."

"This distorted view of his own potential," we commented, "he probably got from his teachers in the first place."

Kaye disregarded our comment. "Well, in any case," he continued, "I was feeling experimental that semester, and I thought, 'Oh, what the hell; I surely can't do any harm.' So I gave Morton an A in the course he was taking with me, even though he didn't deserve it. I thought maybe if I gave him an A, I could help him see himself as capable of A work."

"You mean you gave him an A--even though he hadn't done A work in the course?"

"That's right. He didn't deserve it. But I did it anyway."

"But you see," I said, "it worked!"

"Who knows what works," Kaye said. "Maybe it was a girl friend! But in any case, this student eventually was admitted to graduate school and is now one of the finest minds around this place."

"What if your plan hadn't worked?" I asked. "Would you have felt guilty?"

"Guilty? How do you mean?"

"Well," I said, "you know, at having lowered the standards of the University?"

"Oh--that!" Kaye's gesture reduced my question to nonsense. He pulled off his shelf a copy of the Dialogues of Alfred North Whitehead and held it so I could see the title. "Do you know this?" he asked, and without waiting for an answer he said, "Listen to this passage." It ran:

> I am profoundly suspicious of the 'A'-man. He can say back what you want to hear in an examination, and...you must give him his A if he says it back; but the ability, not to say the willingness, to give you back what is expected of him argues a certain shallowness and superficiality. Your 'B'-man may be a bit muddle-headed, but muddle-headedness is a condition precedent to independent creative thought in the first stage. Of course it may get no farther than muddle-headedness. But when my colleagues chaff me for giving more A's than they are willing to do and tax me with tenderheartedness, I reflect that I would rather not have it on my head that I was the one who discouraged an incipient talent. (Price, ed., 1954, p. 46.)

RELATIONSHIP BETWEEN ELEMENT #3 (GRADING) AND ELEMENT #1 (CONTENT)

We have already commented on the need instructors feel--we are speaking of the standard model where faculty members are officially responsible for grading students--to achieve a bell-shaped grade curve. This pressure and the desire to be just and fair in grading makes it necessary for faculty to spend a good deal of time collecting hard evidence so that the grade may be justly and objectively determined. The necessity for collecting such kinds of evidence has a far greater influence on the content of what is assigned and what is learned than either professors or students suspect. At its simplest level, it determines, partially, at least, the sorts of written assignments students are asked to turn in. It encourages instructors to give the type of assignment that can be graded with some objectivity - and, in many cases, with ease as well.

This appears to be, our data show, a major reason why so many daily or weekly written assignments, term projects, questions in final examinations, etc., tend to be prestructured and mechanical; for such exercises are capable of yielding not only an appropriate spread from A to F but also the "evidence" that justifies the lower grades in case the student or an administrative officer were to raise any question about them. This sort of objective evidence is often important to the faculty member himself. Indeed, the more he feels compelled to be just and equitable in so vital a matter as grades, the more he must resort to teaching assignments and examination exercises that are prestructured and mechanical, and thus capable of being scored with some objectivity.

This point can be illustrated by a decision which, not long ago, faced the general education Humanities staff at San Francisco State College. During one of the staff's frequent discussions about the desirability of including in the Humanities course some projects requiring students to actually "create" an object in the arts, one of the staff members (whom we shall call Jones) proposed a type of project that is too complex to describe here in detail but was fairly close in spirit to a painting-by-number kit. He argued against a "free" painting assignment on various grounds. One was that it would "encourage charlatanism"; his assignment, on the contrary, would frustrate the charlatan, he said. He argued further that "attention to detail" and "patience" were both important aspects of the creative process and demonstrated (quite ably, I might add) that his proposed assignment demanded great attention to detail and great patience.

Jones also argued that since the completed object would be appropriate in a dormitory room, students could put it to immediate use. Other staff members asked him how the student who found the end-product _worthless_ might react; and he replied that of course a student had the right to hold such an opinion, and that fortunately his grade would not be based on _his_ opinion.

As the reader has no doubt anticipated, Jones' most eloquent argument rested in an indisputable advantage; his proposed assignment was easy to grade objectively. He pointed out that it was impossible to judge a "free" painting, as there are no generally agreed upon standards.

Several of his colleagues on the staff argued that Jones' project would have the very opposite effect from the one intended: that instead of encouraging students to be "creative," it emphasized the merely technical element, the "crafts" side of the creative process--what in the Crocean aesthetic, for example, is not even part of the artwork but "externalization."

While those who opposed Jones prevailed in this discussion, there were two questions he had raised which they were not able to answer to the satisfaction of his supporters: a) How was a faculty member to protect himself against the student who is a charlatan, except by some such proposal as the one Jones had made? b) If Jones' proposal were rejected and a "freer" project adopted, how would the grading problem be handled? "Won't the result just be chaos?" they asked.

The Jones proposal illustrates how closely interrelated are the grading system (Element #3) and course content itself (Element #1). It is obvious in the case of the Jones proposal that the grading operates as a cause. But the controversy between Dr. Jones' supporters and his opponents also, though less obviously, illustrates the other side of the coin: the traditional grading system is a consequence as well as a cause. Its deeply rooted place in our educational scheme is not only a cause, but also a product, of the standard conception of other elements in the curricular-instructional system that exists on most American campuses.

Since Dr. Jones' conception of the _other_ elements was of this standard sort, the traditional grading system--assuming its operation without undue abuses--makes perfect sense to him. Much the same point of view was expressed by many faculty members during the Berkeley debates that yielded the Muscatine Report. It is well stated by the faculty member who argued as follows (1966, pp. 95-96):

> It would be deplorable if the rather harsh, critical environment appropriate to an educational institution gave way to a congenial, unevaluative one, in which scholars went about their business and students were simply welcome to pick up what they liked.... The most effective way of inculcating habits of self-criticism in one's students is as a critic, and only secondarily as an example.... But unless one is forced to do this, one will tend to avoid it.... And this is my main argument for grading: it forces teachers to evaluate their student's work and to justify those evaluations in detail--activities which neither party particularly enjoys. ...

It is clear that for this professor, criticism and evaluation of student work do not take place in the course of the _teaching_ process itself, as he conceives it; for him, these elements would be largely (or perhaps entirely) absent if the grading system did not "force" teachers, as he says, to include them.

The reader will notice his opposing terms: a) a "rather harsh, critical environment," which he finds appropriate to the teaching-learning process, versus b) a "congenial, unevaluative one." Apparently "critical" must go with "harsh"; "unevaluative" must go with "congenial." There are, however, some social groups--notably certain family groups--which can be characterized as not harsh but congenial, and not unevaluative but critical. Is such an environment possible in the educational world? For this faculty member, apparently not. He finds that it is precisely the grading system--its judgmental atmosphere and its often irrevocable rewards and punishments--which "forces" the teacher, as he says, to perform his role of critic. The opposing position would maintain that it is not the role of critic which the grading system forces the teacher to play, but that of judge. Moreover, the relationship he must establish with his students as judge (if he is to play that role well) must--adherents of this view maintain--reduce his efficacy as both teacher and critic.

PROBLEMS UNDER THE PASS-FAIL SYSTEM

Even under conditions where the traditional grading system has been severely modified, even in an environment which attempts to be congenial and critical without being judgmental, grading problems of a serious nature persist. Let me illustrate this point from my own experience.

Last year, I directed an experiemental program for freshmen which used only Pass and Fail as its course grades. I should like to discuss the cases of two students, Elaine and Bill, who represented a difficult grading problem even under the Pass-Fail system.

I need to say a few words, first, about the Program itself. The Freshman-Year Experimental Program at San Francisco State College was established in 1966 in order to combat the impersonalization which is so characteristic of the large urban campus. The fifty freshmen who entered the Program (it was open to any admitted freshman who applied, until the fifty places were filled) were assigned to a small group of faculty members, responsible for the entire instructional program of these students. They took all their courses together, sometimes meeting as a full group but more often in smaller sections. The courses *per se* were not unique, but they were taught rather differently. The Program tried to establish a learning climate in which learning and teaching were seen merely as aspects of a single process of collaborative inquiry. Students were supposed to work *with* the instructor, participating in the organization of their studies, in the formulation of assignments, and even in setting standards. Of course, this process was different in the different courses as each instructor was an individual with his own needs and ways. We explained to students that faculty members were "people"--we were individuals and we demanded that we be treated as such.

Another feature of the Program was that it tried to avoid being completely book-centered and concept-oriented. It required students to participate in certain projects which took them away from the classroom to the inner city or elsewhere in the community.

We knew that if we had to operate under the traditional grading system, the teaching-learning relationships we were trying to establish would become contaminated. Hence we requested permission to award only two grades: Pass and Fail. We tried to make these as meaningful as possible; thus, although such matters as due-dates and deadlines were greatly minimized in the Program, certain requirements were set as minima for a Pass grade.

For the course in English composition, it was understood that no student would receive a Pass if he did not hand in a term paper that showed he had done both work in the library ("book research") and work in the community ("people research"). Of the six or seven students who were considered by the faculty to be among our best students, three turned in no term paper for the English course. One turned in no paper at all. The other two, Elaine and Bill, turned in something at the end of the semester, but it was not the term paper.

Bill, a young writer, about seventeen years old when he entered the Program, had gone to Big Sur for a few weeks during the semester in order to work on his spring term project. He had discussed the project with me in several conferences, and I had permitted him to select Big Sur instead of the San Francisco community. (I might mention that in the fall semester, he did two term projects and turned in excellent reports. One focussed on one of the residence halls on campus, where he was then living, and the other dealt with a tutorial arrangement in Chinatown in which he participated.) What Bill turned in as his spring semester term paper consisted of half dozen sheets. There were three poems arising out of experiences at Big Sur and two fragments of prose, one of them highly imaginative and experimental and quite exciting. His covering letter to me, dated May 21, 1967 ran as follows:

> Here's my term paper. This group of small writings is my term paper.
>
> Now possibly you believe this does not represent broad reading but, you see, it does. I have gone deeply into the subject this semester and loved every minute of it. This is the most and the best I can do for now.
>
> You will also find my term paper in Another Side of Bob Dylan, in William Carlos Williams' poem, "The Late Singer," in Golden Gate Park, on Potrero Hill, and thousands of other places and things.
>
> Thanks for all the help you've given me.

Elaine's covering letter was quite different. It was dated May 22, 1967, and read as follows:

> I am a product of the kind of education which the Experimental Freshman-Year Program was reportedly trying to alleviate. I don't think I'm completely "gone," but I still have vestiges of the "no production except under pressure" syndrome. And so I must confess that I put off until the last minute a formal compilation of my research on child art--which is my English project.
>
> Until today, I had planned to hand in this term paper merely because I felt I would fail English if I didn't. Since I had already done the reading and the field work itself, the paper was just a required exercise which I was putting off for no other reason than that I tend to procrastinate.
>
> But during this morning's discussion with Ed, it occurred to me that if I finally did get the paper written and turned in only because it was something I was "supposed" to do, then I would be guilty of continuing the very process which the Experimental Freshman-Year Program planned to stop.
>
> Sid said something today which I really believe to be true, and it is that just because the teacher never sees any tangible, material proof that the student did any work over the semester, he cannot assume that there was no education taking place. To this, Ed said, "But what about the student who, after the first few sessions, doesn't show up again until the end of the semester with nothing to show for his absences? In a Pass-Fail program such as this, shouldn't this student receive a Fail?" Sid's answer and mine was an absolute No. That's the point. There should be no Fails at all.
>
> Anyway--I won't be handing in the English term paper. I have compiled some excerpts from my Journal which are directly related to

> my field work, and that is enclosed. I have sent you this because I feel you'd be interested in seeing the pattern of my "people research."
>
> If you'd like, I can provide a list of my reading, although my point is that this should not be necessary.
>
> I don't mean for this letter to be an apology or a plea for a Pass in English. I'm writing because I believe you want to know what I honestly feel. It is this respect for the student's attitudes and ideas which, to me, has been one of the most important parts of E.F.P. and I want to thank you for that.

Accompanying Elaine's letter was a document consisting of a dozen typed pages, carrying entries from her journal. I should explain that all students in the Program were requested to keep a journal which, they were told, they would never be asked to turn in. The entries which Elaine had excerpted from her journal, beginning on February 14 and ending on May 13, give facts and reactions relating to an art class that Elaine started in the spring semester for children at the Mission Tenants Union in an "underprivileged" area in San Francisco. The last paragraphs of her final entry are worth quoting:

> Next week will be my last class. I am really sorry that I won't be able to continue coming during the summer. I'll be back here in the fall, but I have to go home and get a job for the summer.
>
> What did I give to the kids in the art class? It's hard to write about. I know they're sorry I'm not coming back. The week after Easter when I didn't hold a class, Brenda said to me, "Don't be gone again, I missed you." Was the art class more than just something to take up time on Saturday afternoons? The kids could come and make a good mess without being scolded. And I provided a way of working with things - paper, paints, clay - which was different from what they get in school (where you have an "art period" for one hour a week).
>
> And what am I taking with me? When Ernie asked me this question the other day, I said, "Some beautiful paintings"--but I know that is not what he meant. Except that I can point to the pictures around my room and I can point to what I felt when I was working with the kids on Saturdays.

> When Bill (the guy who tried to talk about Black Power) got going on the Mission Project, he kept saying, "Get down to the real things, man, give them real things." And so I felt inadequate, because hunger is real and unemployment is real, and what was I doing about that? But the paintings on the wall are also real, and on Saturdays, this is what I gave to the kids, and this is what I am taking away with me.

It would be difficult to argue that Elaine should not have received a Pass in the course, even though she did not technically meet the course requirements. (Indeed, there would have been a scandal if Elaine had received a Fail since she was one of the two or three most outstanding students in the Program.) And what about Bill? If Elaine received Pass, should not Bill also?

Early in the new program, the Omnibus Personality Inventory was administered. Bill refused to take it and I felt I did not wish to force the issue. He did take it, however, the following spring. In an analysis made by Dr. Roger Cummings, Bill's scores show that he tends to be tolerant of ambiguities and uncertainties, is fond of novel situations and ideas, and prefers to deal with complexity rather than simplicity in his environment. He has an interest in artistic matters and activities, literature, philosophy, and history. He seems to prefer abstract, reflective thought rather than practical, concrete matters. His scores give evidence that he responded to the items in an open way, unlike subjects trying to make a good impression.

Elaine's scores show, according to Cummings' analysis, that she values sensations, has an active imagination, and expresses her impulses either in conscious thought or overt action. Her score on the Autonomy Scale suggests that she tends to be independent, non-judgmental, and realistic. She has a great deal of interest in artistic matters and activities, and prefers to deal with complexity rather than simplicity in her experience. She likes to seek out people and to enjoy diversity, ambiguity, and new situations and ideas. Her scores show an open approach to the OPI items - i.e., she also was not trying to make a good impression.

The faculty's end-of-the-year evaluations for Elaine's and Bill's official records read, in part, as follows:

> For Bill:
>
> A highly talented but still rather undisciplined young writer. We have advised him to pursue his work in fiction and poetry. We believe he will make a successful major in Creative Writing.
>
> He is highly independent and his work in the Program courses highly uneven. He did extremely well in assignments that he undertook. When he felt an assignment was not particularly "valuable" to him, he simply did not do it.
>
> It is difficult to know what his future will be. It is possible he will end up as a fine writer.
>
> For Elaine:
>
> The faculty considers her to be among the two or three most outstanding students in the Program. She engaged in a number of highly significant community projects in connection with her courses and her reports of her work in these projects reveal both the conscientiousness and the sensitivity she brought to them.
>
> She was a leader in class discussions, always contributing original and stimulating ideas. If it were possible to equate the calibre of her work with a letter grade, it would almost certainly be an A.

The cases of Elaine and Bill illustrate a conflict we faced in the relatively simple situation set by the requirements of the Pass-Fail grading system. How much greater are the conflicts which conscientious professors face when they attempt to meet the requirements of the traditional grading system. It is especially difficult to know whether to give a student an A or a B when these letters have no consistent meaning whatsoever. A grade of B means, of course, that the student who earned it is considered above average in one or more respects; but since "average" is not defined any more than the particular respects in which the student is above it, the real meaning of B remains a mystery. It may signify solid achievement, or it may not signify achievement as much as promise. It may represent incipient genius or muddleheaded independence. It may have been a penalty to the brilliant student for work inattentively done or a reward to a mediocre student for work conscientiously done.

CHAPTER 5

ANALYSIS OF AN IMPLEMENTAL ELEMENT
The Pivotal Role of Element #4 (Faculty-Student Interaction)

Summary: The bulk of the chapter is devoted to the presentation of a new typology of instructional styles, in which five instructor "types" are described and their teaching styles analyzed in accordance with thirteen "key" questions. The chapter then presents a brief case study of one day in the life of a college teacher, focussing on the relationship between graduate school training and the tasks demanded of him as a teacher of undergraduates. The final section relates teaching styles to different attitudes toward the student as a person.

The three structural elements in the curricular instructional subsystem, discussed in previous chapters, have been defined as those that (1) govern the selection and ordering of the content of the curriculum, (2) determine the arrangements under which faculty and students (or groups of students without faculty members) come together formally in order to carry on the teaching/learning process, and (3) determine how students are "graded" and moved (or not moved) to the next stage on the road toward the degree. We are now about to consider one of the elements through which the potentials embodied in the structural elements are realized.

On every campus, great trouble is taken to work out a curriculum and to arrange carefully for formal meetings between students and faculty, in order to implement that curriculum. What happens when those meetings take place? One of the elements that describe what happens is Element #4 in our scheme--namely the kind of interaction (or lack of it) between faculty and students which takes place during the course of the teaching/learning process in the classroom. This interaction is the subject of the present chapter.

A TYPOLOGY OF FACULTY ROLES IN THE TEACHING/LEARNING PROCESS

A search was begun, early in our investigation, for a typology that would yield accurate and useful descriptions and analyses of patterns of faculty roles in the classroom. A preliminary typology, which we adopted during the first several months of the existence of this project, proved unsatisfactory when we subjected it to a variety of tests. This preliminary typology distinguished primarily two categories: (1) faculty members who focussed on subject-matter mastery and (2) faculty members who focussed on the development of the student as a person. We discovered, during the course of our interviews and class visits which we made in the early months of the project, that there were many faculty members who did not fit either "type" well. Since we knew it would not serve our purposes merely to stretch the two categories in order to be able to include all kinds of instruction, we abandoned a structure consisting merely of this relatively simple opposition of two faculty types.

We next adopted a three-type structure, as follows:

Type 1 -- The Subject-Matter-Centered Faculty Member
Type 2 -- The Instructor-Centered Faculty Member
Type 3 -- The Student-Centered Faculty Member

The second type, in this new structure, included mainly the faculty members whom we had observed earlier who did not fit either of the two types in our first typological structure. These are instructors who are constantly attempting to set themselves up as models for students to imitate. They use lectures as their primary means of instruction, and they appear to be most satisfied when they have evidence that their students are beginning to think as they think, speak as they speak, and analyze problems as they analyze problems.

After some experience with this three-category typology, my assistants and I decided that it, too, was inadequate. Its major weakness was that it did not permit us to distinguish between two different (radically different, we felt) kinds of student-centered instructors. We discovered certain student-centered instructors who concentrated almost completely on the development of intellectual skills and abilities, while others (whom we had also classified as "student-centered") concentrated not on intellectual development alone but also on many other aspects of individual growth--on "affective" as well as "cognitive" knowledge.

Moreover, there was a certain type of instructor in certain skills courses--those where the goal consisted of mastery of a given set of operations, to the point where it would become semi-automatic--which did not fit any of our categories. We found this type in abundance in elementary courses in mathematics and accounting, foreign language, stenography, typing and skill courses using other machines, piano performance, and other courses of this nature. We decided to invent a special category for this type of instructor, calling him: Type O: The Drillmaster. As the following section will show, given the goals of this type of course, we found many very excellent teachers (in our subjective view) among those we are calling "drillmasters" and we intend our label to be purely descriptive rather than convey any unfavorable judgment.

As we then tested our structure against our observations, we came out, finally, satisfied--at least for purposes of continuing our investigation--with our five-type category:

Type 0 -- The "drillmaster"

The basic characteristic of a session led by the Type 0 faculty member is that ratiocinative processes are kept at a minimum. That is, the skills to be acquired (or information to be mastered) are of such a nature as to render the process of discovery or any kind of "reasoning out" unnecessary. Indeed, in such classes, students are expected to develop automatic or semi-automatic responses and not reason things out; success is achieved when a student immediately responds correctly to a cue, to an exercise situation, or to a "problem" without using the reasoning process at all.

Type 1 -- The "facts/principles-centered" faculty member

The teaching of the Type 1 instructor is organized around his desire to help students master facts, principles, concepts, analytic tools, theories, applications, etc. He systematically covers many facets of the "cognitive" knowledge relevant to his field.

Type 2 -- The "instructor-centered" faculty member

The teaching of the Type 2 instructor is organized around his desire to help students learn to approach problems in the field as he himself approaches them. Like the Type 1 faculty member, he concentrates on transmitting segments of "cognitive" knowledge, but with the Type 2 instructor it is the force of his personality and his point of view that gives shape to that knowledge.

Type 3 -- The "abilities-centered" faculty member

The teaching of the Type 3 instructor is organized around his desire to help students acquire a set of skills and abilities that are intellectual in nature (except in those courses that are regarded in the academic world as "non-academic") and that use reason and language (human language, mathematical language, etc.) as their major tools, with problem-solving (broadly or narrowly conceived) as the major means.

Type 4 -- The "group/person-centered" faculty member

The teaching of the Type 4 instructor is organized around his desire to help students develop as individual persons along all the dimensions where growth appears necessary or desirable. The student group is used as a major means for accomplishing such development.

We are now ready to describe concrete examples of each type.

TYPE 0: THE DRILLMASTER -- DR. MONTERO

Dr. Montero has the reputation of being one of the best foreign-language audio-lingual instructors in the country. He often gives professional demonstration sessions at modern language meetings and--whether one knows Spanish or not--a visitor at such a meeting, interested in foreign language instruction, finds (as we did, in fact) Dr. Montero's classes breath-taking. For example, in the drill work, the tempo must be varied but regulated to the split-second for certain purposes if the drill is to be completely successful. Dr. Montero does this without the use of cue-cards of any kind; he has developed the art to a fine point.

Such classes exist not only in the foreign language field but in other disciplines as well. In classes where a skill that does not depend on reasoning is to be acquired, the instructor's objective is to develop in the student an automatic or semi-automatic response. The instructor wants to induce in the student an ability to respond immediately without having to "think," hence he is teaching against his objective if he encourages the student to reason out his response for each exercise. As a consequence, in sessions led by a Type-O instructor, the ratiocinative processes are kept at a minimum. The acquisition of the skill (or a body of information, if that is the objective of the course) is attained by repetition and practice rather than by problem-solving. The stress is on "learning to do" rather than "learning about" in the case of a skills course, or on the rote learning of facts and generalizations, rather than on the process of "discovery" or "inquiry" if the course includes a body of information.

In either case, the instructor is the ultimate authority and the individual student has little choice as to his own behavior; that is, once he has decided to participate (and he faces penalties if he decides not to participate), there is generally only one "correct" response for each cue that is given him.

Our observations of the "drillmaster" type included not only a variety of skills courses--a particular section of elementary piano, of stenography, of typewriting, of elementary Russion, of introduction to logic, of college algebra, of elementary statistics, of elementary accounting, and of freshman English--but also a few courses in the natural and social sciences where students basically did little else than memorize and recite, almost as a catechism, questions and answers about facts and generalizations presented in the textbook, with almost no part of the class session devoted to "inquiry" or problem solving.

In the foreign language field, with which we are well acquainted, the "drill session" has played an indispensable role in any program using the aduio-lingual approach. This approach has generally been based on principles derived from Skinnerian psychology and structural linguistics. That particular linguistic theory and that psychology have fit together nicely. (A readable description of the tenets of audio-lingual language teaching is presented in Axelrod and Bigelow, 1962, Appendix A.)

However, within the last several years, a new school of linguistics--with which the name of Noam Chomsky is associated, referred to as the school of the "transformational" or "generative" grammar--has called into question whether the principles of Skinnerian psychology are really appropriate for language learning. (An excellent discussion of this issue is presented in symposium form by del Olmo, Bolinger, and Hanzeli, 1968.)

Except for certain skills courses, we did not interview very many Type 0 instructors or visit very many of their classes.

TYPE 1: THE FACTS/PRINCIPLES-CENTERED INSTRUCTOR -- DR. PRINCE

Dr. Prince happens to be an art historian, but he can be taken as an excellent representative of the facts/princples-centered instructor in general.

In "shop talk" with Dr. Prince, one is immediately struck with this fact: He does not find either his task or his discipline ambiguous. His task, he feels, is to cover the materials of his discipline in a systematic way in order to help his students master those materials. And he is quite clear as to which subject matters ought to be covered in the various courses offered by his department--how such topics are to be arranged and what "coverage" each course should achieve. Indeed, as he explained in one of our interviews, he and his colleagues (i.e., those in art history throughout the country) have a standard way of ordering their subject matter; thus, courses carrying the same label on different campuses "cover" the same general topics. A course labeled "Classic and Early Christian Art" or "Modern Art," for example, generally, Dr. Prince informed us, covers about the same subject matter whether it is given on one campus or on another.

Just as Dr. Prince has a clear sense of his own role--that of teacher--so he has a clear sense of the student's role. Part of an interview we had with him clarifies his point of view on this question:

INTERVIEWER: Dr. Prince, how do you conceive of the teaching-learning process?

DR. PRINCE: How do you mean--the teaching-learning process? They are two quite different processes.

INTERVIEWER: You do not agree with those educators who regard them as but two aspects of a single process?

Dr. Prince replied that he did not. It became clear in the interview that he did not accept the view of teaching-learning as "joint inquiry." And his practice, as we observed it, is quite consistent with his philosophy. We learned, during our visit to Dr. Prince's class, that when joint inquiry takes place in his encounters with students, it is not a real instructor-student inquiry but merely a pedagogic device by which Dr. Prince helps a student arrive at a solution to a pre-structured problem.

This point deserves further explanation. Dr. Prince places his emphasis on the student's mastery of the material that has already been discovered by workers in the field. In other words, his students are led to answers--or, indeed, are given answers directly--which are already known and agreed upon by scholars such as Dr. Prince himself. The notion that during a class discussion the professor can "learn" something appears utterly foreign to Dr. Prince's conception of teaching and learning.

Thus Dr. Prince's emphasis is placed entirely on the mastery of the subject matter, defined broadly, but always based on a conception of knowledge *qua* product (even when a methodological question is under discussion) and never--or hardly ever--knowledge *qua* process.

Two basic concepts, according to our analysis, organize Dr. Prince's view of himself as a teacher and his activity in the classroom. The first concept is that his image of the ideal student in his classes is identical for *all* students: such a student is one who has perfectly mastered the subject matter that Dr. Prince has presented in the course and has assigned for out-of-class study. The second concept is that the change taking place in students is, in Dr. Prince's conception, a more-or-less identical process for all students in his class. It is a movement from ignorance to knowledge--relatively speaking, of course, given the level of the course. For example, when a student takes his Primitive Art course, which deals with the arts of Africa, Polynesia, and Pre-Columbian America, Dr. Prince's expectation is that students will enter the course knowing next to nothing about the arts of those cultures and that they will slowly, under his tutelage, move from ignorance to knowledge.

Standards of mastery are set for each stage of learning; and the student is judged and graded, as he completes each stage, by comparison with those standards. Such a process--if it is not to be purely mythological--must depend, of course, upon widespread agreement in the discipline as to the ordering and sequence of the various facets and elements of the subject matter and upon setting uniform standards of achievement. Dr. Prince told us he believes that such widespread agreement does in fact exist among art historians throughout the country. (Although we did not feel it our place to raise the matter with Dr. Prince during our interviews with him, we should like to point out here what his office-mate told us in private. His office-mate commented that there had been at one time widespread agreement among art historians as to which periods, movements, chief figures, etc., were to be covered and in what order in an undergraduate program; but we were told that many campuses have broken away from the old mold and that "several new patterns are now emerging, with resultant confusion" in undergraduate curriculum planning.)

We found it interesting that Dr. Prince's preference for "an emotion-free atmosphere" in his classroom came out during our interview. We already knew, as a result of a visit to one of his classes that an aura of scholarly objectivity and non-involvement, and a cool, rational approach to problems, characterize his classroom as well as his person. His relationship to students, both in class and out, is cool and distant, although not positively unfriendly. And students--it appeared to us--were quick to sense that there is a private space, which they may not penetrate, encircling Dr. Prince wherever he goes.

Since he is also a department chairman, we asked him about recruiting new faculty:

INTERVIEWER: What do you look for when you recruit new faculty?

DR. PRINCE: Oh. The candidate's reputation in art history is of course primary--or, in a young man, promise and potential. Of course, he should have certain other qualifications as well.

INTERVIEWER: Such as--

DR. PRINCE: Oh--he ought to be articulate, and patient. And he should be capable of getting along well with colleagues.

While we did not find Dr. Prince the most "exciting" teacher we had ever seen, no visitor to his classes would find cause for complaint. The materials he deals with are intrinsically interesting--at least we found them so--and Dr. Prince has the gift not to get in their way.

We shall presently bring up certain other matters about his practice, for example, how he handles questions from students; but we wish now to present Dr. Innis.

TYPE 2: THE INSTRUCTOR-CENTERED INSTRUCTOR -- DR. INNIS

Dr. Innis, a professor of English literature, is one of the most talked-about faculty members on his campus. His major role in the classroom--this is obvious to any visitor--is that of model, demonstrating to his students what he believes are the best ways of apprehending the works and handling the concepts of literature. It is interesting that Dr. Innis emphasized in his interview with us his competence both as a specialist in the field and as a generally educated man. The interviewer asked him about his role of transmitting to students his specialized knowledge and he replied as follows:

DR. INNIS: Giving my students special knowledge is only a *part* of my job. There is a more important part. I do not regard myself simply as a specialist in my field; I am also an educated man. (*Smiling*:) Please forgive me for saying so, but if I did not regard myself as an educated man, I would not be teaching in a college.

INTERVIEWER: You feel, then, that it's possible to be both a competent specialist and an educated man generally?

DR. INNIS: It's not only possible--for a college teacher, it's imperative. As a teacher of undergraduate students, I must not be simply a specialist. I must be a specialist who looks at the world around him and sees the relationship between my specialty and all of the problems facing mankind. To be able to do that is to be "educated."

Dr. Innis believes that teaching is essentially modelling. He tries to demonstrate what an educated man does with the materials of English literature. Hence, for Dr. Innis, it is not the subject matter which is at the center of class activity, but what the instructor does with that subject matter. And it is not "mastery" of subject matter which students are expected to attain as their primary goal; their aim, rather, is to be able to demonstrate--in papers and examinations--that they can imitate Dr. Innis' ways of conceiving of problems, defining them, formulating them, reasoning about them, and handling data pertaining to them. He is interested in the transmission of knowledge--but it is not primarily knowledge as product; it is, rather, knowledge as process.

Judging from what we saw going on in Dr. Innis' classroom, it is clear that students are not given an opportunity to "practice" the process in class. Class time is used entirely for lectures (which Dr. Innis characterizes as "a kind of demonstration") and for question-and-answer periods (which Dr. Innis refers to as "discussion"). The discussions do not generally contain genuine dialogue or extended encounter between instructor and students. Yet some of the students we observed in our class visit--students of the intellectually aggressive sort, we felt--use the after-lecture question-and-answer period to "challenge" Dr. Innis' approach or point of view. Dr. Innis obviously enjoys these challenges, encouraging them, and (as he is an excellent showman) almost always emerging victorious.

It was clear to us that Dr. Innis is interested in the teaching process, has a coherent conception of what his role as teacher is, plays a completely central role in the class (that is, he is always at the center), prepares for that role with great diligence, and obviously enjoys being in the limelight. It is also clear from our class visit that Dr. Innis has about him an aura of authority and independence which attracts students--he has, indeed, a charisma--and that he takes seriously the education of undergraduate students.

During after-class discussions, Dr. Innis responds warmly to students, especially those who show warmth for him. He has rapport with many students, even though they or their ideas are never really central for him; that is, all conversation with them begins with him and his ideas and, sooner or later, moves back to him and his ideas. He is the center at all times.

Although we did not discuss grading *per se* with Dr. Innis, we gathered that he is *generally* satisfied with the standard grading system (as is, we neglected to mention, Dr. Prince). Dr. Innis' general grading practice was clearly implied to us by everything he said. He uses a single primary criterion: in examination exercises, students are asked to demonstrate the exactitude with which they are able to imitate his approaches, perspectives, conceptions, and formulations. Or, alternatively, students may imitate other figures whom Dr. Innis admires--that is, other "critics" of English literature whose work is available to them--whose approaches, perspectives, conceptions, and formulations Dr. Innis himself, in a sense, tries to imitate. Yet we must be sure not to give a false impression. Dr. Innis is no carbon copy of more famous men in the field. We found him--as his students must also--a unique "character" with ideas about which he feels passionately and which he expresses with verve, originality, great seriousness, and infectious humor.

The difference between the facts/principles-centered instructor (Type 1) and the instructor-centered instructor (Type 2) is exactly the difference Daniel Bell draws between a "scholar" and an "intellectual." (See Bell, 1960, p. 372, as cited in Hodgkinson, 1967, p. 183.) A scholar, he says, "has a bounded field of knowledge, a tradition, and seeks to find his place in it, adding to the accumulated, tested knowledge of the past as to a mosaic." The intellectual, on the other hand, "begins with his experience, his individual preceptions of the world, his privileges and deprivations, and judges the world by these sensibilities." That distinction emphasizes the clearest difference that can be stated about the teaching styles of these two types as members of the academic community. The best Type-1 class sessions, even when they are conducted by different instructors, look very much the same. The instructors keep out of the way of their materials and carry on their classroom operations in rather similar fashion. Hence it was our experience that when we visited a session with one Type-1 instructor on a given topic, it was very much the same experience as a session devoted to the same topic, conducted by a Type-1 colleague of his. But the reverse is true of Type-2 instructors.

Each has a unique perspective, and an experience in a class session with once is rarely similary to an experience on the same topic with his Type-2 colleague.

The following passage from our interview with Dr. Prince is instructive:

INTERVIEWER: Should it make any difference to one of your undergraduate students whether he has you or one of your colleagues for the course in--say, "Renaissance and Baroque Art"?

DR. PRINCE: It apparently does make some difference to students. They appear to see some differences between us. But that was not your question. You asked whether it should make a difference. It actually should not. Most of my colleagues and I would cover the same material in about the same way when we teach the same course. I do not mean to overstate the matter; of course there would be many variations--perhaps hundreds--from one to the other. But none of these differences should be significant--though, occasionally, students might be influenced in their motivation or in other ways by these differences.

INTERVIEWER: I see. If you could conceive of a state of perfection--with respect to this question--then the differences between yourself and your colleagues, as you teach any given course, would be so insignificant as to make no difference to any student? Is that correct?

Dr. Prince answered that this was indeed so. We did not ask Dr. Innis exactly the same question, but it was unnecessary. The man is inimitable, in the first place. Moreover, one can surmise from his entire teaching philosophy that he believes in a diversity of teacher models. Among colleagues in English literature, for example, in his own department, several represent quite different schools of criticism; and some have no approach to literary criticism at all, being of that generation when the literary scholar was trained to engage in value-free historical research. Since no single faculty member could serve as the model for all styles and all modes of learning and inquiry in the field of literature, Dr. Innis tends to feel (we infer from our interviews with him) that excellence in a particular program may stem from the very diversity of faculty models to which the student is subjected. If one instructor demands and illustrates a particular perspective in criticism--say, the Chicago School (Ronald Crane et al.)--another may take the position, as indeed Dr. Innis does, that art is one of the modes of exploring the nature of things and perceiving "truth."

In the conception of education held by Dr. Innis, it is not only desirable but necessary for colleagues in a department to model different approaches and different perspectives. If the instructors do not reinforce one another's biases, if their levels and modes of treatment present a welter of diversity to the student, the reason is not to confuse him but to help him realize that no single perspective or single mode of inquiry is accepted in the field as the road to Truth.

Many of Dr. Innis' faculty colleagues wonder, however, whether such diversity is educationally sound. Among these, a large number hold the view that a student ought to receive training in one intellectual framework--any respectable one will do--working at it in sufficient depth, rigor, and intensity to enable him to master it and use it with ease.

TYPE 3: THE ABILITIES-CENTERED INSTRUCTOR -- DR. ABBOT

Precisely such a view as outlined in the last paragraph is held by Dr. Abbot, who believes in training of a particularly rigorous intellectual sort and finds that--with the exception of a handful of "followers"--he does not have students long enough or continuously enough under his tutelage to be able to carry his program of training through to a satisfactory conclusion.

Dr. Abbot, it happens, is unusually articulate about his teaching philosophy. He distinguishes between knowledge as product and knowledge as process. (Indeed, it was from him that I learned this distinction.) He condemns courses in the Humanities--he is a member, by the way, of an interdisciplinary "Department of Humanities" which exists on his campus, offering both Bachelor's and Master's degree programs--which "derive from the conception of knowledge as product." Here is a passage from our interview with him clarifying his view on this point:

INTERVIEWER: How do you mean--"derive from the conception of knowledge as product?"

DR. ABBOT: Well, traditionally, courses in the Humanities have taken as their base the known--what has been established as a body of knowledge within the field, along with their attendant methods, principles, and contents. Well, now, the emphasis in planning such courses has been placed on subject-matter per se, or on themes and problems cutting across several subject-matters within the Humanities, or even on lists of great books.

INTERVIEWER: Yes...?

DR. ABBOT: Well, those approaches derive from the underlying conception of knowledge as product--as given, as a thing with its own corporate limits!

INTERVIEWER: And your approach...?

DR. ABBOT: Well, I believe that we do better to treat knowledge as process.

INTERVIEWER: What does that mean?

DR. ABBOT: It means that we must shift the focus of concern to the nature of rational activity itself. We must cultivate rational activity as activity. You see, it's not just the products of such activity.

INTERVIEWER: I see. May I ask you this question: As you organize your courses, are you able to cover the materials that students are required to master--or at any rate, be exposed to--when they study with professors who take other approaches?

DR. ABBOT: Of course. In the courses I give, the materials, methods, principles, contents, concepts, structures--and so on--of the various traditional courses are, you might say, traversed. But during that traversal, the emphasis is on the how and why of knowledge rather than on the what.

INTERVIEWER: And what does this approach do for the student that he does not get in a traditional subject-matter approach?

DR. ABBOT: By emphasizing rational activity, the kind of course I try to give provides the student with the basis for cultivating within himself those fundamental activities by which man fulfills himself as man, realizes the function peculiar to his nature, and hence moves toward that excellence of which only he is capable.

INTERVIEWER: For your point of view to be effective, must your whole approach not be adopted by other faculty within your own department?

DR. ABBOT: (Laughing) That is the difficulty! Not merely in my own department--to be really effective, it must be adopted by the whole college!

INTERVIEWER: What about the people in the fine arts and other areas that are not "verbal" in nature? How does your view fit them?

Dr. Abbot's view of the non-verbal is difficult to summarize. But he made clear to us that while he spends time in class exploring non-verbal modes of communication, the dominant mode of communication between himself and his students is at all times analytic, rational, logical.

If we may generalize about Type-3 instructors whose classes we visited, we discovered among them a strong concern with the intellectual development of students. Some fine arts faculty, of course, felt this was not their entire goal and spoke of the intellectual and intuitive development of students. We found that whether a Type-3 faculty member is in a field that is traditionally "academic," verbal and book-centered, in which ideas and concepts play a central role, or whether he is in a field that is considered "creative"--i.e., non-verbal or at least not book-centered--his emphasis in class is on analysis, on the use of reason and language as major tools in teaching, and on the problem-solving process as the major device by means of which he tests and grades his students. We should add the observation, however, that in our sampling (which may not have been representative), we found, as might be expected, a larger proportion of Type-3 instructors among "academic" studies than in the performing and "creative" fields. There, we found many Type-4 instructors.

TYPE 4: THE GROUP/PERSON-CENTERED INSTRUCTOR -- DR. PERSE

Dr. Perse, like Dr. Abbot, is also a "student-centered" instructor, but he believes that Dr. Abbot's emphasis on intellectual development and on rational activity is illusory. Dr. Perse feels closer to Dr. Abbot than he does to Dr. Prince on this question; but in general, Dr. Perse does not believe that "intellectual" development can be split from other aspects of the human personality. Or, to put it more accurately, he believes that if an instructor succeeded in effecting such a split, this could only be taken as a sign of failure. However, Dr. Perse and Dr. Abbot obviously share one fundamental assumption: they both believe that a teaching philosophy must be undergirded by a theory of human development--a theory, that is, of how human beings achieve their fullest powers of humanness. Dr. Abbot believes that one can--and ought to--keep the two "developmental" cycles separate: progress in academic matters on the one hand, and progress in non-academic problems (e.g., identity, intimacy) on the other. This portion of our interview with Dr. Perse emphasizes the difference in point of view between Type-3 and Type-4 instructors on this point:

DR. PERSE: You see, it's possible to distinguish two life lines for the typical college student, two cycles as it were. One of them consists of his academic assignments and crises, meeting deadlines for papers, exploring new intellectual worlds, making decisions about his field of concentration, his career, and so on. The other consists of non-academic matters: friends, sex, his struggle to divest himself of his parents, and so on. Do you see?

INTERVIEWER: Yes, but...

DR. PERSE: Well, this is the point I am trying to make. If we could reach the condition as faculty members we all ought to be striving for, those two cycles would be related in a creative way. When a major decision in the one cycle has to be made, everything in the other cycle--ideally--should be ready to help. If there is a crisis in the other cycle, then everything and everybody in the first ought to stand ready to support the student as he works through it. You see? There ought to be some kind of dynamic relationship between those two cycles, they ought to work hand in hand. Well, that hardly ever happens nowadays--at least not on this campus, anyway!

In another significant way, Dr. Abbot and Dr. Perse are more similar to each other than either is to Dr. Innis or Dr. Prince; and yet, here too the two "student-centered" faculty members are distinctly different. This has to do with the use of the student group. Both use the group in their teaching; both take advantage of pressures felt in the student group, and of opinions expressed in it, to motivate members of it. But Dr. Perse goes considerably further than Dr. Abbot. Dr. Abbot uses the group in his teaching but Dr. Perse actually becomes a member of it, subjecting himself also to group pressures and not trying to assert any more authority than any other member moving in and out of leadership roles.

The fact that Dr. Perse is in the field of dramatic arts makes it possible, we believe, for him to be so successful as a Type-4 instructor and not undergo discomfort vis-a-vis his colleagues. (Our observation was that Type-4 instructors in other disciplines--we were able to study intensively two such instructors in English departments--were uncomfortable and became defensive in departmental meetings and shop-talk sessions with more conservative colleagues.) As an instructor in the field of dramatic arts, Dr. Perse's roles in his work with students were enormously varied; when he was directing a play, for example, his authority found its source (precisely as in the case of student directors also) in his role as director rather than in his status as faculty member.

Though he has no formal training in psychology, Dr. Perse appeared conversant with recent personality theory; he stressed, during our interviews with him, his conception of what a student does when he "learns" something. His comments on this point can be summarized as follows: A student does not learn unless he is challenged. A "challenge," Dr. Perse believes, is not simply a matter of proper motivation. It is related to the nature of the task. A challenging task not only elicits a desire to do it; it also demands resources and strategies that are somehow new--that have not been used before in the achievement of other tasks. Dr. Perse pointed out that when a student encounters situations he can manage with his existing repertoire of responses, he will use only this existing repertoire. There is, thus, no challenge in meeting such a situation. From the point of view of individual "growth" in the student, such an exercise yields little better than zero; it is mere repetitiousness, reinforcing a path already known and used. But where the individual, Dr. Perse pointed out, cannot manage in a "new" situation with his existing repertoire of responses, he must invent or find new ones; and if these "work," they are integrated with the rest of the personality. This is the kind of learning Dr. Perse tries to induce in his own students.

Those of us in the project who discussed this issue with Dr. Perse were much struck by the cogency of his conception; taking that sense of learning, we could understand why so few college students "learn" anything during their college years as a result of their course work. College professors typically present them with tasks which they can manage with their _existing_ repertoire of responses--those learned during previous years of schooling. They can, for example, memorize sets of facts and principles quite well, having learned in previous school experiences how to memorize facts presented by others and generalizations drawn and formulated by others. And though many college courses require them to memorize still more facts and principles, there are no new elements in the _response_ students are called upon to make in meeting these demands. They can simply maintain--perhaps strengthen somewhat--the behavioral structures with which they enetered college. The way of organizing experiences they already possess fits these demands; there is no need for them to seek a more complex way to organize experience.

Indeed, our observation of class sessions showed us that the very opposite often takes place. The student may be _discouraged_ from seeking new ways to organize experience. He may learn that it is risky, if he is out to get an A, to try to perform his class assignments in any _new_ way. If he discovers that his existing behavioral structure is quite adequate for all the demands put upon it by the assignments his instructors give him, he would tend to resist whatever _other_ pressures might encourage him to expand that structure.

In other words, his academic courses, instead of _joining_ other, non-curricular forces that urge the student to expand, to develop new resources, and to discover himself and the world, may function in the very opposite way. They may help him resist those outside experiences by teaching him that in the realm where his behavior counts (for it is his course work which will bring the A's that will buy him his future as a professional), a less complex and relatively undeveloped pattern of responses is sufficiently successful to bring the highest rewards.

Although there may be much about Dr. Perse's philosophy and practice which is questionable, our study of his teaching style left us with no doubt that his meaning of the term "learn" is crucial for any kind of education (as opposed to training) in the liberal arts. Its significance was brought home only recently with something of a shock. We were interviewing present and former students in connection with the Center project. One particular student had been out of school for two years, after having received a Bachelor's degree in English. During the course of the interview, we happened to learn from him that he had not been inside a library--not even a single time--since he had completed his college work.

"How did that happen?" we asked--implying that since his behavior was so unusually exceptional, there had to be some "explanation."

"Well, there was no special reason," he said in a friendly way. "I just didn't have any more term papers to write!"

Trying to maintain the neutral tone appropriate to an interview, we asked: "Was that the only reason you went to the library when you lived on campus?"

"Well--yes. Of course, I would also go there to study. But thank God I don't have to do that any more either."

It took a great act of will to prevent one's crying out: "Have to! Of course you don't have to study any more, but don't you want to? College was supposed to make you want to keep on learning the rest of your life!"

But even as these sentences formed in the mind, the flaw in reasoning became obvious. He had used the word "study." Our unuttered question used the word "learn." It was clear that this student illustrated what Dr. Perse was talking about; this student's courses, whatever they did teach him, had neglected an essential task; they may have required him to undergo a process called "studying," but they had not required him to practice "learning."

There is one serious problem which a Type-4 instructor may face. We found many Type-4 instructors uncomfortable and defensive about their teaching philosophy and practice. While it is perhaps the only teaching style that is appropriate to the "developmental" goal, i.e., the growth of the student as a person, it does not fit easily into the typical and predominant curricular-instructional structures (Elements #1, #2, and #3) that exist on most American campuses.

An instructor who holds a "student-centered" philosophy and wants to follow a "student-centered" teaching style can become a Type-3 instructor without experiencing discomfort on any American campus; but if the Type-4 philosophy and practice appeal to him, unless he looks for a college that is itself group/person-centered, or has "pockets" of faculty who are, he is apt to be unhappy. Type-4 instructors admitted to us that colleagues ridiculed them and even accused them of "lowering standards" and "being soft"; and many students--especially the gamesman types who have been taught to press an advantage wherever they see it, and to mistrust people--actually, they told us, rejected them and regarded them as Outsiders who, for reasons the students could not understand, refused to play the game. Under the "rules" of this game, a faculty member must try to make students work as hard as possible for the lowest wage he can pay (in grades, that is) while the student tries to get the best wage he can for the least work.

THIRTEEN KEY QUESTIONS AND HYPOTHESES

Following our fomulation of this five-category typology, we changed our interview questioning and classroom observation in order to test these distinctions. We set up a series of thirteen "key" questions which we believed served to distinguish adequately one type of instructor from another, and in our first formulation of these key questions we set forth a series of hypothetical propositions. We then attempted to test these hypotheses against the data that came to us from interviews and classroom observations.

In the following paragraphs, we shall use abbreviations to represent each type, as follows:

Type 1 -- the f/p-c faculty member
Type 2 -- the in-c faculty member
Type 3 -- the ab-c faculty member
Type 4 -- the g/p-c faculty member

Thus:

The phrase facts/principles-centered is abbreviated "f/p-c."
The phrase instructor-centered is abbreviated "in-c."
The phrase abilities-centered is abbreviated "ab-c."
The phrase group/person-centered is abbreviated "g/p-c."

KEY QUESTIONS SERVING TO DISTINGUISH TYPE-1, TYPE-2, TYPE-3, AND TYPE-4 INSTRUCTORS FROM ONE ANOTHER

The key questions and hypotheses are as follows:

Key Question #1

> When the faculty member conceives of the "ideal" student--that is, the student who completes his course and undergoes, as a result of his studies in that course, precisely the changes the instructor has hoped would take place--is this image identical for all students?

Our hypothesis for this question asserted that for every type of faculty member, except the g/p-c instructor (Type 4), the answer to this key question would be "Yes." We anticipated that for the g/p-c instructor the answer would be "No," for the reason that he emphasizes, more than any of the other types, individual differences among students and the desirability of preserving (and developing) those qualities that make for one's uniqueness as an individual--qualities through which, in a word, one's "individuality" is created.

Key Question #2

> When a faculty member conceives of the changes he wishes to effect in his students--the kinds of changes, the direction of change, etc.--does he imagine that those students who reach the goals he has set for them change, basically, in the same way?

According to the hypothesis we formulated, we anticipated that only for the f/p-c instructor (Type 1) would the answer to this question turn out to be "Yes." Our preliminary interviewing had led us to believe that only this type of college teacher has an image of a more-or-less evenly "ignorant" group of students sitting in a given course at the beginning of the year. The students then--in this conception--move through the course from a state of ignorance to a state of knowledge about the facts, principles, concepts, tools, theories, etc., that constitute the course content. This concept appeared to us, early in the investigation, to be characteristic for all instructors we classified as Type 1.

Our later interviews and visits confirmed this earlier tentative conclusion. These instructors do, in fact, believe (perhaps somewhat naively in many cases) that, at the beginning of a course, students are quite ignorant of the content to which that course is devoted and that, at the close of the course, they are quite knowledgeable of that content. These instructors further believe that, at the beginning, the ignorance of students is more-or-less equal and that, at the end, their knowledge is markedly unequal. It is this "unevenness" at the end that is measured by the final examination and that is reflected by the course grade.

None of the other instructor types, our inquiry showed, hold this conception. Even where the answer to Key Question #1 is "Yes"-- as in the case of the in-c and the ab-c instructors (Types 2 and 3)--the conception of both the kind of change and the direction of change (Key Question #2) is far more complex than the answer to this question that prevails among Type 1 faculty members.

For example, an ab-c instructor (Type 3) may set as one of his goals the ability to "read" a set of data accurately--that is, without "overreading" (and thus emerging with a questionable conclusion) or "underreading" (and thus not going as far as the data allow). Such an instructor knows that, even at the beginning of a course, great unevenness will exist among students in respect to this particular intellectual skill. He knows, further, that some students have earlier been taught to be (or they are by temperament) extremely cautious, and they will habitually underread data, while others are unrestrainedly impressionistic and will tend to over-generalize. The change that these two sorts of students need to undergo--as a result of their work in an ab-c instructor's course--is therefore not at all identical. Indeed, for the first sort of student, the desirable kind and direction of change are almost precisely opposite to those needed by the other, if the instructor's goal for both sorts of students is to be reached.

Key Question #2 thus probes deeply into instructional philosophy and practice, and it serves to distinguish the most common type of college teacher among older faculty members--the f/p-c instructor (Type 1)--from the types that appear to us to be more common among younger faculty members--the in-c, the ab-c, and the g/p-c instructors (Types 2, 3, and 4).

Key Question #3

> Does class activity focus completely--or virtually completely--on the transmission of knowledge that is primarily in the "cognitive" domain? Or does class activity reflect also significant attention to knowledge that is in the "affective" domain?

Our hypothesis for this question asserted that only the g/p-c instructor (Type 4) would pay more than incidental or unsympathetic attention to knowledge in the affective domain. We also anticipated discovering that even in the case of the g/p-c instructor--in spite of his announced intentions--a substantial fraction of the classroom session (we judged well over half) would be devoted to processes concentrating on the acquisition of cognitive knowledge by students. Still, the difference in instructor attitudes--i.e., their feelings of responsibility for helping students acquire affective knowledge--and in classroom practices appeared to be significant and to distinguish clearly the g/p-c instructor from the other three types.

Key Question #4

> In his efforts to help students acquire knowledge--including knowledge in both the cognitive and the affective domains--does the faculty member focus on knowledge primarily as product? Or does he focus on knowledge as process also?

As knowledge is commonly conceived, it is both (1) an activity and (2) a set of products which emerge from that activity. Some instructors concentrate only on the products, especially in courses for undergraduates. Other instructors, however, concentrate on the activity itself, covering many of the products of that activity in their particular field either as illustrations or by way of a more-or-less adequate sampling, but they are not concerned with systematic coverage.

After completing our preliminary interviewing, we concluded that, for instructors emphasizing the acquisition of intellectual skills and abilities--what later became our ab-c instructor (Type 3)--the concept of knowledge as process would play a central role in educational philosophy and practice. This turned out to be the case (which obviously will astonish no reader). But our final hypothesis for this question asserted that for the in-c instructor (Type 2) and for the g/p-c instructor (Type 4)--as well as for the ab-c instructor (Type 3)--the answer would go in the same direction. Hence, only for the f/p-c instructor (Type 1), our hypothesis stated, is knowledge as product absolutely central.

Key Question #5

> Is the activity carried on in class, as well as the activity students are expected to perform in order to prepare for the class session, and on the final examination, always (or almost always) rational in nature--characterized by the formulation of concepts and explanations, by reasoning, generalizing, and particularizing, and by other exclusively rational activities? Or is there significant attention given to the non-verbal, the irrational, and the non-rational--as activities and not merely as topics for analysis?

With exceptions made for courses that are non-verbal in content (e.g., some of the courses in such fields of study as painting, violin, typing, or tennis), our hypothesis for this question asserted that only for the g/p-c faculty member (Type 4) would we discover any interest in the non-verbal or non-rational as means to be used by students in the learning process. Indeed, for instructors of the other three types, the attitude which we anticipated was one of rejection of these means--or even annoyance that anyone might conceive of them as appropriate for a college class.

Key Question #6

> Are decisions about the selection and sequence of topics and the organization of class sessions made completely by the instructor himself? Or does he seek advice from his students (during the course of the class session), or give responsibility to the group, for any of these decisions?

Our hypothesis asserted that, except for highly incidental episodes, both the g/p-c faculty member (Type 4) and the ab-c faculty member (Type 3), as a matter of educational philosophy and policy, seek advice from their students or give responsibility to the group for decisions affecting the selection and sequence of topics and the organization of class sessions. For the other two instructor types, we anticipated that the instructor would make these decisions himself.

Key Question #7

> Is the instructor particularly and explicitly concerned with communication between each student and his classmates?

According to our hypothesis, we anticipated discovering that the ab-c faculty member (Type 3) and the g/p-c faculty member (Type 4) would be particularly concerned with adequacy of communication between each student and other members of the group. We further anticipated discovering that the other two instructor types, although concerned about communication between instructor and students and between students and instructor, would not be concerned about communication between students and other students.

Key Question #8

> Does lecturing by the instructor (or by guests)--or arranging for lecture-like presentations, such as educational films--play a significant and continuous role in the class sessions?

On this question, our hypothesis stated that for the f/p-c faculty member (Type 1) and the in-c faculty member (Type 2), the answer is "Yes." We anticipated, in both cases, that a certain amount of time would be devoted to non-lecture activities ("discussions" or "question-and-answer periods"), but we expected to find that lectures or lecture-like presentations would play a significant and continuous role in the classroom.

For ab-c and g/p-c faculty members (Types 3 and 4), however, we anticipated discovering that the answer to this question would be "No."

Key Question #9

> During "discussions" or "question-and-answer periods," in a unit of dialogue taking place between student and instructor, is the student often an "initiator"? Or does the instructor always

(or almost always) initiate a unit of dialogue with a student by asking a question, requesting a reaction, or setting a problem?

On the basis of our early inquiries and observations, we formulated for this question a hypothesis according to which we anticipated discovering that only for the f/p-c faculty member (Type 1) is it true that the instructor always (or almost always) initiates a unit of instructor-student dialogue.

We further anticipated discovering that, in the cases of the other three instructor types, whenever "discussions" or "question-and-answer periods" would take place, students would often initiate a unit of dialogue by asking a question, expressing a reaction, or even setting a problem (or "trap") for the lecturer. Our preliminary observations had persuaded us that in the case of the in-c faculty member (Type 2)--where question-and-answer periods invariably follow a formal lecture--challenges by students during the question-and-answer period are often welcomed by the instructor. These challenges can take the form of polite accusations that the instructor is internally inconsistent, that he and one of the authors assigned for reading "contradict" one another, or that some authority in the field has stated quite another point of view. There then ensues a battle of wits in which the faculty member is invariably victorious.

It is true that in the cases of the ab-c and g/p-c faculty members (Types 3 and 4), the relationship between student and instructor, in such units of dialogue, is of a different sort than that just described for the in-c faculty member (Type 2). But our hypothesis nevertheless classified Types 2, 3, and 4 together on this point, because such a classification reveals a special characteristic about classroom atmosphere: it was part of our hypothesis that only in the classroom of the f/p-c instructor (Type 1), during a discussion or question-and-answer period, does a student feel restrained if he wishes to initiate a unit of dialogue.

For example, in an f/p-c faculty member's class, the student feels free to bring up a question only when he is asked by the instructor whether he or "anyone" has any questions (in which case the instructor is the "initiator")--otherwise, the student is made to feel he is "wasting" class time, or he must wait for the instructor's office hour, or put his question to the instructor either before or after class (i.e., in both cases, outside of the class context). Such is not the case during the "question-and-answer periods" normally provided in classes conducted by in-c faculty members (Type 2); and such is, likewise, characteristically not the case for ab-c and g/p-c faculty members (Types 3 and 4).

Key Question #10

> Does the instructor often "model" the learning process or the process of discovery? That is to say, does he often demonstrate the learning activity itself by actually learning with the group, or by describing such an activity out of personal experience or out of the experience of other scholars and investigators?

Our hypothesis stated that for all instructor types, except the f/p-c instructor (Type 1), the answer would be "Yes." The f/p-c instructor, we anticipated, might occasionally engage in such behavior, but he would not often or systematically do so. Hence, the answer for him, the hypothesis asserted, should be "No."

Key Question #11

> Does the instructor use pressures felt in the entire student group (i.e., the class)--and opinions expressed by it--to motivate individuals in it?

According to our hypothesis, we anticipated that further investigation would establish "Yes" as the answer for the ab-c and g/p-c faculty members (Types 3 and 4); "No" would be the answer for the f/p-c and in-c faculty members (Types 1 and 2).

Key Question #12

> Are cooperative projects, involving two or more students, often undertaken--usually in an off-campus setting--as an integral part of the work expected to be done for the course?

Our hypothesis predicted that we would find such projects, as an integral part of course work, only in classes conducted by g/p-c faculty members (Type 4).

Key Question #13

> Is the faculty member generally satisfied with the standard testing and grading system used in colleges today?

Our hypothesis predicted that since the teaching styles of the f/p-c instructor (Type 1) and the in-c faculty member (Type 2) "fit"--more or less well--the standard grading system, they would generally find it satisfactory; while this would not be the case for the other two instructor types. Indeed, that proved to be the case; we should immediately say, however, that almost all of the instructors we interviewed had complaints of one sort or another about the grading system--about features of the system itself, about ways in which the system was "abused," or about bad uses to which the system itself was put by people outside of the academic world; hence almost everyone was in favor of "reforming" it in some sense. Still, we found significantly less satisfaction (insofar as we could judge subjectively) with the grading system among instructors we had classified as Types 3 and 4 than among those we had classified as Types 1 and 2.

Table 1 presents these thirteen key questions and hypotheses in tabular form. The evidence given in Table 1 indicates that the classificatory system adopted potentially distinguishes clearly among the four types.

The f/p-c instructor (Type 1) and the g/p-c instructor (Type 4) are seen to be in opposition on all thirteen questions. The in-c instructor (Type 2) is in agreement with Type 1 on nine of the thirteen key questions, but he is in opposition to Type 1 and in agreement with Type 4 on four crucial questions. The ab-c instructor (Type 3) is in agreement with Type 4 on nine key questions, but he is in opposition to Type 4 and in agreement with Type 1 on four key questions. Type 2 and Type 3 are in agreement on eight key questions and are opposed on five crucial ones. These interrelationships, although difficult to visualize in the abstract, are visible at a glance in Table 1 and 2.

COLLECTING THE EVIDENCE TO TEST THE HYPOTHESES

After formulating the set of hypotheses outlined in the preceding section, we rearranged our interview format and our method for observing classes in accordance with the requirements of the thirteen key questions.

We can report that, on a pragmatic level, the new typological structure "worked" excellently--that is, it enabled us to proceed easily to describe the conduct of classes and to classify instructors in one or

TABLE 1

CLASSIFICATION OF INSTRUCTOR "TYPES" (AS EXEMPLIFIED BY DR. PRINCE, DR. INNIS, DR. ABBOT, AND DR. PERSE) ACCORDING TO THIRTEEN "KEY QUESTIONS"

(For full statements of the key questions, see pp. - .)		Type-1 (f/p-c)	Type-2 (in-c)	Type-3 (ab-c)	Type-4 (g/p-c)
1. Is instructor's image of "ideal product" the same for all students?	Yes=* No=/	*	*	*	/
3. Is class activity directed to cognitive knowledge--or is there significant attention to affective knowledge?	Cognitive=* Both=/	*	*	*	/
5. Is the activity of instructor and students primarily rational in nature, focused on concepts, explanations, reasoning, and generalizing?	Yes=* No=/	*	*	*	/
12. Do cooperative projects, involving two or more students, play significant role in student activity for course?	No=* Yes=/	*	*	*	/
6. Are decisions on organization of class made completely by instructor, or does he give responsibility to students?	Instructor Alone=* Students Included=/	*	*	/	/
7. Is instructor particularly concerned with communication between each student and classmates?	No=* Yes=/	*	*	/	/
8. Does lecturing play a significant and continuous role?	Yes=* No=/	*	*	/	/
11. Does instructor use group pressures to motivate individuals?	No=* Yes=/	*	*	/	/
13. Is instructor satisfied with the testing/grading system?	Yes=* No=/	*	*	/	/
2. Is instructor's hoped-for change in students the same for all?	Yes=* No=/	*	/	/	/
4. Is instructor's focus on knowledge as product, or is he also concerned with knowledge as process?	Product=* Both=/	*	/	/	/
9. Is student often an initiator during discussion periods?	No=* Yes=/	*	/	/	/
10. Does instructor often model the learning process?	No=* Yes=/	*	/	/	/

TABLE 2

COMPARING RESPONSES OF THE FOUR INSTRUCTOR TYPES TO THE THIRTEEN KEY QUESTIONS (AS SHOWN IN TABLE 1)

	* Responses	/ Responses
Type 1 (facts/principles-centered)	13	0
Type 2 (instructor-centered)	9	4
Type 3 (abilities-centered)	4	9
Type 4 (group/person-centered)	0	13

another of the types. The only instructors we found difficult to classify were those who were clearly ambivalent about their own philosophy and practice and, as a matter of fact, were themselves "in transition"--i.e., in the process of moving from Type 1 to Type 2 or from Type 3 to Type 4.

It is clear that this is not the sort of framework that can be demonstrated as "true" in any open-and-shut case by a collection of hard data. It is important, however, to report that we found it extremely comfortable to work with. This framework illuminated our observations, and it made possible a kind of contrastive analysis among and between faculty types (looked upon exclusively in their roles as teachers) that has not, to the knowledge of this investigator, as yet appeared in the literature of higher education.

But clearly, if this typology is valuable and workable, it must be so not only for one project. It must now be used by other investigators. Will they find it equally workable? Will it also illuminate their observations and stimulate further exploration? Will it make possible a new level of contrastive analysis in the field of teaching philosophy and practice in higher education?

This remains to be seen. At this time, however, we are optimistic, and we hope that the theoretical framework presented in this chapter will constitute a contribution to research instruments in higher education.

GRADUATE STUDY AND THE TASKS OF AN UNDERGRADUATE TEACHER

A faculty member in the foreign language department of a large liberal arts college located not far from the Center was kind enough to spend some time with us responding to a peculiar request we made of him: We asked whether he would review his campus day on Wednesday of the preceding week, noting particularly the tasks he carried out for which he felt his graduate study had well prepared him. We should add that Dr. Sorenson, who teaches French, is considered by students and colleagues to be a superior teacher, devoted to his work with undergraduate students and happy to be a teacher.

In his first class hour--a nine o'clock--on the preceding Wednesday, Dr. Sorenson had taught a senior seminar in problems of literary history; the group, at the time, were working on a methodological problem in literary chronology--the date of a Voltaire poem (where, as he explained, it was crucial whether the data were prior to 1726 or after 1729, since Voltaire spent the years between those dates in England; thus this small problem rested in the larger context of exploring what a literary "influence" is). In this course, Dr. Sorenson was teaching his students--future literature scholars--the tools the literary historian must master. For this work, his graduate studies, in his view, had prepared him splendidly.

During the ten o'clock hour, Dr. Sorenson participated in a faculty-student panel discussion arranged by the Linguistics Society. It turns out that this student organization is unusually large on his campus (there is an active degree program in English As A Second Language there). The session, as Dr. Sorenson described it to us, was an emotion-laden discussion on the pros and cons of a freshman English textbook by Roberts that uses the framework of generative-transformational grammar instead of the more usual frameworks of either the traditional Latinized, "normative" grammar, or the newer structural mode. The English department faculty, he informed us, was torn on this question, and the students in the department were too. During the last several years, Dr. Sorenson explained, he had become enormously interested in linguistics; indeed he was scheduled at one point to attend a Linguistics Society of America summer institute but other duties on his campus prevented his going. He has had no formal training in linguistics whatsoever, except a few old-fashioned philology courses and, as he described it, a rather naive and excellent but completely practical course in French phonetics; through that course he acquired an excellent accent but little notion of the way the sound structure of languages (or even of the French language) works.

During the next hour on that Wednesday, Dr. Sorenson spent most of his time in the Recording Room at the language laboratory, directing two native speakers of French in the recording of drill materials for laboratory tapes. These tapes were being used by students in a first-year French course Dr. Sorenson was teaching; each instructor was permitted to select his own textbook and was expected to prepare his own tapes (or supervise their preparation if he wanted to use native speakers and were himself not a native speaker). Dr. Sorenson explained to us that he finds the entire organization of lower-division language courses intolerable. But he enjoys the class itself and is very much interested in the "audio-lingual" approach to language study. Still, he does not find the experience without great difficulties; in his own words: "It isn't easy, you know, when I've had no training in doing this kind of teaching at all."

"What about your experience as a Teaching Assistant during your doctoral studies?" I asked, as I knew that he had been a TA in graduate school.

"Oh, that!" he replied laughing. "That could hardly qualify as training--except in a negative way!"

His first class after lunch on the day we are reconstructing here was a section of his first-year French course. But we should explain that between the time he left the tape session in the Recording Room of the language laboratory and the hour he met his first-year French class, Dr. Sorenson had his lunch, saw four students in brief conferences in his office, and then attended a meeting of his department--an emergency meeting to develop "strategy" on a library crisis. It happened that the college-wide Library Committee had suddenly decided to reduce the appropriation in foreign language and literature because, as their decision read, "so many books in foreign languages are purchased out of the general fund." Needless to say, Dr. Sorenson's graduate work had not prepared him for anything but routine service on departmental committees.

After his first-year French class came his course on Tragedy. This is the class, he told me, that he is enjoying most during the semester. It is not given in his own department but in the English department, and the students who take it are mainly English majors; but other majors in humanistic studies are encouraged to take the course, and a few foreign language majors do. Originally, though the course included Job, several Greek plays, and works from the literatures of Western Europe, it was taught exclusively by members of the English department. But after some arguments, bitterness, and "negotiations," the two departments reached an agreement that the staffing of the course would alternate between an English man and a foreign language man.

Dr. Sorenson considered himself, in light of his relatively junior status in his department, lucky to have gotten the assignment. The reason (he told me quite frankly) that he believed this had occurred was simply that more senior members of the Foreign Language Department "were afraid" of the course, as it was multi-national in scope while their competence was confined to a single national literature of Western Europe. In that class on tragedy, on that Wednesday, Dr. Sorenson became embroiled in an argument (or, really as he described it, "in a discussion verging on an argument") with several bright students over an acceptable contemporary interpretation of Aristotle's "object," "manner," and "means" of imitation. The discussion had left Dr. Sorenson both angry and frustrated; and as he had no class during the following hour, he went to the library directly from the Tragedy class to check out some materials on the Poetics (including a new translation he had heard someone at Chicago had done) to work on that evening. He had studied the Poetics as an undergraduate but never during his years as a graduate student; as for formal study of the literatures represented in the course, except in the case of the Romance literatures, this had taken place only during his undergraduate studies.

On the way from the library (the "Libe" as it is known on Dr. Sorenson's campus), he paused at the faculty lounge for a cup of coffee and was then, a few minutes late, on his way to the campus theatre. There, a play of Moliere's was in rehearsal at the time. Dr. Sorenson has a good personal friend in the drama department who happened to be directing the play. The director had asked his friend and colleague (whose special field for the doctorate had been seventeenth-century French drama) to serve as technical advisor. Dr. Sorenson had really become involved, he told me, almost without his wanting to, when he persuaded his colleague and others, at the time the play was first being considered, that they ought not consider any translation other than Richard Wilbur's. For this piece of advice, Dr. Sorenson was rewarded with the invitation to serve as technical advisor throughout the production.

Dr. Sorenson receives, of course, no "credit" of any sort on his load of teaching and non-teaching duties, for his contribution to this dramatic production. But he told me he enjoys the experience; it is different being a "drama man" from being a "literature man"; and he is amazed, he said, to discover what a radically difference experience for students it is (as well as for the professor). He stressed this point. As a graduate working in dramatic literature, he had never been closely involved with the aspects of sound and spectacle; his courses had always consisted of problem-centered, rational discussions about the "meaning" of a work, or its structural intricacies, or its place in a literary tradition, or its "causes" in the life of the times, or its effect on subsequent literary developments. Everything else was purely extra-curricular.

During my discussion with Dr. Sorenson about his working day on that particular Wednesday, I found that he had served, all in the course of a single day's work, as three or four distinct kinds of specialist that his graduate training had not adequately prepared him for. He himself judged his graduate program as an overly narrow one--indeed, he commented that it was unusually narrow; or perhaps, he added, it only appeared unusually narrow in contrast with the breadth that his job now demanded of him. But he had obviously had the fortitude and breadth of interest to overcome it. I tried to probe his secret, looking for every clue I could. And in the end the matter appeared to be easy to pinpoint: Dr. Sorenson still wanted to learn, was indeed still learning, and still seemed to know how.

I commented about this, asking: "How do you account for your breadth of interest now, when your graduate program, as you describe it, was so very restricted?"

"Oh," he answered, "my undergraduate college!"

Dr. Sorenson is living proof; it is possible for an undergraduate program to be so liberating that even the rigors and narrowness of a graduate program need not imprison a man's spirit permanently.

WHO IS THE BEST TEACHER?

We come now to the most important question: Is one type of teaching style--one particular teaching philosophy and practice--better for undergraduate courses than others? For example, among the five "types" we earlier characterized (Type 0, Type 1, Type 2, Type 3, Type 4), is one of these better than the others for teaching undergraduates?

The answer is, of course, that these "types" are neither good nor bad in themselves. Hence one is neither better nor worse than another; each has its own excellence, and the functions carried on by each are germane to today's educational needs.

There are, however, some additional points that ought to be added to that central one. For example, are any of the functions typically carried out by these instructor "types" capable of being done by non-faculty human beings or by non-human means altogether--e.g., books, film, computer, etc? It is undoubtedly true that the functions carried out by an excellent Type-2 (instructor-centered), Type-3 (abilities-centered), or Type-4 (group/person-centered) instructor are less capable of being carried out today by other media than the functions now performed by a Type-1 (facts/principles-centered) instructor. As for Type-0, almost everything he does, except his smile, can be done as well or better by combining programmed learning sessions with a faculty aide (who might perhaps also be taught to smile). But there is no doubt that a session with an excellent Type-0 instructor can far outdistance a poorly prepared session with a machine. Unfortunately, we are at the moment in a period of imbalance; the profession is embarrassed not to be able to take advantage of our enormous "hardware" capabilities because we do not yet have the "software." The printing-press has been invented, as we pointed out in Chapter 2, but no one knows how to write books for it.

What of the future?

The Type-4 (group/person-centered) instructor now often faces an insoluble problem. In carrying out his "developmental" purposes, he invariably finds he cannot cover a pre-planned segment of subject-matter very efficiently; he often becomes frustrated--and often defensive. But this problem will not plague the Type-4 instructor indefinitely. When our "programs" catch up with our technology, the Type-4 instructor will no longer have that obstacle standing in his way.

And when adequate "programs" are produced, then even the most excellent Type-1 (facts/principles-centered) instructor will not be able to compete with an arrangement that includes a non-human "program" and a human faculty-aide whose function it will be to smile and render other auxiliary services. At that time, Type-1 instructors will either continue on the faculty as ceremonial figures or--this would be true of the brighter ones--they will move into program-writing.

As for the Type-2 (instructor-centered) faculty member, it is unlikely that he would ever be replaced by any combination of "program" and faculty aide. But we will surely find a way to reproduce his presentations by modes superior to those thus far developed. Film and TV, the media available to us today for this purpose, have not yet been able to catch this instructor-type's quintessence. The physical process of "reproducing" him is so artificial and clumsy at the present time as to stifle the very qualities that make the Type-2 instructor the superb teacher he so often is.

As for Type 3 (the abilities-centered instructor), nothing in the technology can now reproduce what he is able to do with students. But the possibilities in computer-assisted instruction, with programs that are individualized (i.e., the computer generating its own questions) appear staggering. The probability is that, as that future materializes, the Type-3 instructor, like his Type-1 colleague, will either become a ceremonial figure on the faculty or will move into the field of program-writing.

This leaves the Type-4 (group/person-centered) instructor. It is difficult to see how he will be replaced by non-human means. Indeed, the Type-4 faculty member, now often so uncomfortable in the standard college/university model, will probably become, in the end, the dominant faculty type in undergraduate instruction.

But this stage--as is evident to any observer of the current scene--is a long way away.

FACULTY ATTITUDES TOWARD THE STUDENT AS A PERSON

When we began the Project, one of our assumptions was that there would be a strong connection between teaching styles and different basic attitudes toward students.

Our conviction on that point increased during the course of our interviews with faculty. In those interviews, we tried repeatedly to go beneath the surface to explore differences in attitudes toward students. As one might expect, we found the process difficult; we were working so much of the time in the dark. But we did find one set of experiences valuable. And we would like to end this chapter by reporting it in some detail.

During our interviews, we posed the following "problem" to faculty:

INTERVIEWER: Suppose a student came into your office--one of your own students--and as you nodded to the chair alongside your desk where visitors normally sit, suppose he made himself comfortable in that chair and then, in a natural and easy way (but without asking permission) put his feet up on your desk. When you look at him, you find him grinning--good-naturedly--ready to start the conversation. How do you think you would react?

Here is Dr. Prince's (Type 1: Facts/Principles-Centered Instructor) reaction, as transcribed from our interview:

DR. PRINCE: (Looking grim) It's difficult to conceive...

INTERVIEWER: Of course. But suppose it did happen.

DR. PRINCE: I would just stand up and quietly ask him to leave. And of course I would expect an apology of some sort.

INTERVIEWER: Why would you expect an apology?

DR. PRINCE: Because I had not been treated with respect.

Dr. Innis (Type 2: Instructor-Centered Instructor) asked us to repeat the hypothetical situation and restate our question. Then he said:

DR. INNIS: Well, I think I'd.... To be frank, I'd be shocked.

INTERVIEWER: May I ask why?

DR. INNIS: Well, students don't normally treat me that way.

INTERVIEWER: Yes, I understand. But what would you say or do?

DR. INNIS: I think I'd just stand up on my feet. And of course, he would then stand up too. And we would resume our conversation that way, standing. And I'd probably say: "Please make yourself comfortable," pointing to the chair. But then I would make some joke to keep him from putting his feet up on my desk.

INTERVIEWER: A joke? Like...

DR. INNIS: Oh, a joke that would show him I was displeased...

Dr. Abbot (Type 3: Abilities-Centered Instructor) responded by asking us a question:

DR. ABBOT: Just a minute. Let me get the situation straight. Is he sticking his feet in my face?

INTERVIEWER: (Laughing) Oh no! He just puts them on your desk in a perfectly casual way.

DR. ABBOT: This is no confrontation--or anything like that?

INTERVIEWER: As I said, this student is grinning at you good-naturedly when you look up at him.

DR. ABBOT: Oh. Well. I wouldn't get too disturbed, I think. I'd probably let him know that this sort of thing is not done. Perhaps I'd take a piece of newspaper or a magazine and hand it to him, and ask him to protect the finish on my desk. Or I might just tell him directly that I don't mind some unconventional behavior but would find that behavior interfering with our conversation.

INTERVIEWER: But wouldn't you run the risk that that very response would interfere with your conversation? I mean, isn't it like shutting a door...?

DR. ABBOT: I wouldn't want to do that. I'd have to discover a way of using the incident to open a door. Yet, I need to be comfortable too--and...

INTERVIEWER: You think you would not be comfortable while the student had his feet on your desk?

DR. ABBOT: No, I wouldn't.

INTERVIEWER: May I ask why?

DR. ABBOT: Well, I guess it's because I can't tolerate such casualness when a student is in my office seeing me about his course work. After all, it's not a social visit.

INTERVIEWER: I see.

DR. ABBOT: (Frowning, thoughtful) Or perhaps it's not so much the casualness as an assumed sense of equality. Yes, I think that's what I find offensive. After all, we're not equals. I guess that's why I'd be uncomfortable. Given our relationship, it would be the unexpected...uh...the wrong thing.

Dr. Perse (Type 4: Group/ Person-Centered Instructor) shook his head (as though saying "Yes") when we posed the question and said:

DR. PERSE: Well, that would be an interesting situation. Of course, he's trying something out. He's probably trying out a new role.

INTERVIEWER: And how would you react in that situation?

DR. PERSE: Yes, I was just thinking. Whether he's trying out a new role or whether it's something else--whatever it is, the thing I could least afford to do--for his sake, I mean for the sake of his education--is...well, to become offended.

INTERVIEWER: I see.

DR. PERSE: You see, I suppose there is a message there. I'd have to say to myself: What he's doing is *un*usual; so there's probably a message--now, what's his message?

INTERVIEWER: What do you imagine his message might be?

DR. PERSE: Oh, that depends. I wouldn't know. It could be any one of several. A very likely one, I guess, would be this: "Dr. Perse, I have seen your colleagues do this. When they come into your office, they put their feet up on your desk. I want to be like a colleague of yours. Let *me* do what you let *them* do."

INTERVIEWER: Let's assume that *is* his message. Then what?

DR. PERSE: Well, then I have to decide whether I want to treat him like a colleague or not. Of course, even if I do, he and I both know it is only a temporary thing--I mean his relationship to me is not static but keeps shifting. Sometimes I might treat him like a son; maybe sometimes like a grammar-school child. But I suppose what he's asking for is to be treated as a person, as an individual...

INTERVIEWER: Then if that *were* your decision, what would you *do*, actually?

DR. PERSE: Oh, I wouldn't do anything. I mean, I would so the same thing that I would do if he were a colleague--which is *not* to call attention to it.

INTERVIEWER: And if you decided *against* treating him like a colleague?

DR. PERSE: Then all I would have to do is call attention to his feet. Any way at all would do the trick. I'd want to pick a way that wouldn't hurt him, of course.

INTERVIEWER: (Nods; after a pause) Now let me shift. Imagine that his message is: "I have no respect for you."

DR. PERSE: Well, I'd have to find out--it would be important for me to find out. You see, if he didn't have respect for me, it's not likely I could teach him very much. So it would be important for me to know.

INTERVIEWER: Could you ask him *directly*? For example: "Are you putting your feet up on my desk because you have no respect for me?"

DR. PERSE: (*Laughing*) Well, *I* wouldn't. But I suppose one could ask him *indirectly*: "I notice your feet are on my desk, and I'm wondering what message you're trying to communicate to me."

INTERVIEWER: (*Smiling*) Forgive me for putting the question this way. But do you really believe all of this is, strictly speaking, connected with a college student's education?

DR. PERSE: Forgive me for giving you a perfectly direct answer: Yes, it is. Unless of course you define education as just learning the forms *amo*, *amas*, *amat* by heart without ever learning what they *mean*.

On my way back to the Berkeley campus, Dr. Perse's last comment kept echoing in my mind. I could not disagree with him; it is typical today to limit the meaning of education to the external forms only--we ask students to learn the forms of the verb *to love* but not its real meaning. The irony of it depressed me: Dr. Perse was right--of that I was certain--but I also knew that he was not right for the standard system and that the system makes it impossible, on most campuses, for this type of college teacher to do the job he believes is most important.

The next day I was discussing this point with a colleague at the Center. It turned out he had just read an excerpt of a talk Nevitt Sanford had given the previous month at the University of North Carolina (it has since appeared in mimeographed form: Sanford, 1967b), and he quoted it for me:

> The other day,...in Alexander Meikeljohn's book *What Does America Mean?* I found something that appealed to me.... He says that the really great ideas that we in this country have tried to follow, the real meaning of America, is to be found in the teachings of Socrates and Jesus. The ideals of "Know thyself" and "Love thy neighbor as thyself" about cover the whole thing. It's interesting to translate these conceptions into psychological terms, for they actually embody most of what I think we mean when we speak of the fullest possible development of the individual. In psychological terms it's easy to see that the two are very intimately related. In order to love another person well, one must know that person well. I would also add that in order to love another person well, one must also love oneself well.... Self-respect is basic to love of another person, for if one is to know others well, he must first know himself; the major sources of misconceptions and misapprehensions of other people come from a failure to admit into one's consciousness aspects of himself, as in 'authoritarianism', which is marked

> by lack of love for one's neighbor and failure to know one's self.

As Andrew M. Greeley points out in his essay in Stress and Campus Response: Current Issues in Higher Education (Smith, ed., 1968), students are strongly attracted today to certain Christian and non-Christian philosophies that are based on concepts of love and knowledge moving beyond the traditional Christian framework and beyond standard scientific rationalism. The conceptions about personality development of theorists like Nevitt Sanford and of practitioners like Dr. Perse, when they are applied to college teaching, seem to fit perfectly these newer tendencies among the American college student population.

NOTE: APPENDIXES A AND B DEAL WITH ADDITIONAL TOPICS RELEVANT TO CHAPTER 5.

CHAPTER 6

RECAPITULATION: PROJECT GOALS AND METHODOLOGY

Looking upon an institution of higher education as a "system," the foregoing chapters have attempted to analyze one of its most important subsystems--the curricular-instructional process.

The first task undertaken was a literature search to discover examples of new curricular models on American campuses, analyze them, and contrast each of them with the standard model that dominates American colleges and universities. The contrastive analysis of old and new models which emerged from this literature search is embodied in Chapter 2 of this report and summarized in Table 3 on page 191A.

This analysis was, however, not an end in itself. It served as a means to more ultimate project goals. For it was not specific curriculum models that the project was ultimately interested in describing. Its final goal could only be met by transcending the analyses of these "micromodels" and actually developing a macro-curricular model. In other words, while the first stage of the project attempted to answer questions like, "How does curriculum _a_ or _b_, or instructional plan _c_ or _d_,work?", the ultimate goal was to answer another question: "How does the curricular-instructional process, _in general_, work?" In order to accomplish this goal, the investigation had thus to move up from the "engineering" level of inquiry to the philosophic-scientific level of inquiry.

THE TWO EMPIRICAL PHASES OF THE STUDY

Shortly after the beginning of the project, while the literature search was still under way, the project moved into its first empirical phase. The project director made contact with faculty members and administrators at five Bay Area colleges and universities, and scheduled a series of interviews and class visits. The institutions involved were these: Chabot College (a two-year college), Golden Gate College (a private urban-oriented institution offering bachelor's and master's degrees with emphasis on work-study curricula), City College of San Francisco (a two-year institution), San Francisco State College, and the University of California. We gave particular attention to certain innovative programs, interviewing students in those programs as well as faculty. At San Francisco State, we studied in depth one innovative program--the Experimental Freshman-Year Program (EFP).

During the earliest phases of visiting and interviewing, it is only honest to say that the project visitors and interviewers were not entirely clear what it was they were looking for. In a sense, they were not yet ready to "look" for anything; the object at that point was simply to observe what was happening in the curricular-instructional process and to describe it. This was not a simple task, however. Project workers found themselves continually describing phenomena they were observing in one micromodel according to language appropriate to another micromodel--usually the standard one.

A brief illustration will show how difficult this problem can be. In the standard model, a set of phenomena called "classes" (elements in the instructional process) correspond in certain predictable ways to another set of phenomena called "courses" (elements in the curriculum). But while a predictable correspondence between these two sets of elements is characteristic of certain models--it is especially visible in the standard model--we needed to find valid ways of describing these phenomena that would be appropriate to models where this usual kind of correspondence between "courses" and "classes" did not exist, or where, indeed, the program was not even divided into "courses." For example, we realized very quickly that in our visits to certain innovative programs we could not permit ourselves to describe group meetings by such standard terms as "class activity" or "out-of-class activity" because for those models the use of such descriptive language obscured what we were observing. To illustrate: In a certain micromodel, a group meeting without the instructor--what in the language of the standard could not be called a "class"--was considered more crucial, as part of the planned educational experience of the student, than group meetings where the instructor was present. In such cases, if the term "out-of-class activity" were used to describe such a session, though technically it would not be inaccurate, it would have obscured what was really happening.

Since we had therefore to invent new language as we went along, the first phase of our observation and interviewing was necessarily unsystematic. But it had productive results; it led to our working out a tentative new language for the "macromodel" and it resulted also in the development of a tentative typology of teaching styles. On the basis of these developments, we took stock, revised our interview and observation schedules, and moved into the second and final phase of our field work.

In this second empirical phase of the project, certain faculty members we had earlier observed were selected and arrangements were made for more intensive work with them. In particular, the project director worked intensively with one faculty member, visiting a large number of his classes and also actually recording some of his class sessions on tape. He had been selected for several reasons. Of our five faculty types, Dr. Abbot typified our Type 3 to perfection--for he was par excellence the student-centered faculty member type concentrating on the development of his students' intellectual abilities. In high repute on his own campus, Dr. Abbot also appeared to us to be one of the most conscientious and sensitive teachers we had ever observed.

When Dr. Abbot was approached with the idea of our doing a depth study of one of his class sessions, he was delighted to cooperate with us. It was our plan to use, insofar as possible, a clinical approach. With his permission, therefore, we recorded several sessions, then selected one and transcribed the tape for intensive study. (Readers of this report who have attempted a verbatim transcription of a tape-recorded group discussion--especially one in which, at almost every crucial moment, two or more individuals are speaking simultaneously--will know what a difficult task this transcription was. Fortunately Dr. Abbot himself was of help in this work.)

With the transcript before us and tape player at hand, we then went through the entire session with Dr. Abbot. We used the technique of listening to the tape and looking at the typed manuscript simultaneously,

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stopping the tape at any point at which we had a question to ask or at which Dr. Abbot had an observation to make. An assistant recorded our conversations on another tape machine. Appendix B presents the whole of the transcript of that class session, with a running commentary based on our interviews with Dr. Abbot.

Phase 2 of our study thus included a variety of observation and visiting activities--ranging from intensive work with a single faculty member which lasted for many days, to single thirty-minute interviews with administrative officers and faculty members.

In these two empirical phases of the project, interviews were held with some sixty faculty members and administrators, and over a hundred class sessions were visited. (Systematic interviewing of students was begun in Phase 1 but was abandoned when we entered Phase 2.) As we entered Phase 2 of the field work, we selected classes and faculty on the basis of advance information, limiting ourselves only to those who we were fairly certain would be most helpful to our investigation; finally, as has already been explained, visiting and interviewing were limited to an increasingly smaller number, with whom the project then worked more intensively.

Our "sample" is thus hardly representative. But it was not of course necessary to our research to have a representative sample. It was not the goal of the project to generalize about the total population of faculty and administrative officers who carry out various facets of the curricular-instructional process, nor did it intend to collect or present any statistical data. The typology of the five teaching styles, for example, is presented at this stage only as an instrument to be used and refined.

While it is based on what had been observed in the hundred or more class sessions that had been visited, the scheme now needs to be put to the test of being used by other investigators.

Our goal thus demanded certain empirical procedures and did not require others. Our goal was to analyze as many different curricular-instructional "micromodels" as we could find and then work out, on the basis of that analysis, the way the curricular-instructional process, in general, works. In a word, we wanted to end up with a macro-curricular model. The result of the inquiry is the theoretical model presented in Chapter 3 of the report, and elaborated in Chapters 4 and 5.

GENERALIZATIONS EMERGING FROM THE STUDY

Although the study was not of a statistical nature, certain generalizations nevertheless emerged. We classify them here under four rubrics: obstacles to educational reform, major trends among innovative programs, the macro-curricular model, and the relationship between the curriculum and student unrest.

Obstacles to educational reform. The first three generalizations deal with major obstacles to educational reform. The first obstacle is the higher education establishment itself and the first generalization may be stated as follows:

GENERALIZATION 1. There are four intrinsic educational goals of the American college/university, but the network of overlapping supersystems of which colleges and universities are a part--including facets of the world of legislatures and business firms, government agencies and eeucational organizations, student associations, faculty groups and guilds, and accrediting bodies--press the college/university to modify its objectives in order to serve their goals. (See pages 6-15.)

Another obstacle is American college/university mythology and the second generalization may be formulated as follows:

GENERALIZATION 2. A body of myth about the curricular instructional process (how it works and what its results are) pervades current thinking, determines the content and form of undergraduate education, and constitutes an overwhelming obstacle to the development of a curricular-instructional science. (See pages 16-38.)

The third obstacle deals with the great confusion in model building:

GENERALIZATION 3. There is a wide variety of meanings in such a sentence as: "Let's build a new educational model for this campus," and the confusion on both the conceptual (that is, the philosophic-scientific) level and the "nuts-and-bolts" (that is, the engineering) level leaves curriculum planners virtually helpless. (See Appendix E.)

Major trends among innovative undergraduate programs. According to the data presented in Chapter 2, the following generalization may be drawn about trends among innovative programs:

GENERALIZATION 4. There are six major trends among innovative undergraduate programs; some innovative programs embody all six trends while some illustrate only two or three of them. Each of these trends is a "response" to a recognized weakness in standard undergraduate programs.

Table 3, on the following page, summarizes what these trends are. (These trends are elaborated in Chapter 2 and illustrated in Appendix C and Appendix D.)

Macro-curricular model. Part II of the report (consisting of Chapters 3, 4, and 5) present and elaborate the macro-curricular model. Generalizations #5, #6, and #7 emerge from that section of the report:

GENERALIZATION 5. There are six "elemental" parts of the curricular-instructional subsystem as it operates on any campus anywhere. These are:

a) the content of study;
b) the system by which groups of learners (with or without teachers) are brought together to pursue their studies;
c) the system by which the learner is officially evaluated, certified, and awarded titles and degrees, i.e., the system of formal incentives;

TABLE 3

MAJOR TRENDS IN INNOVATIVE UNDERGRADUATE PROGRAMS

Weaknesses of Standard Undergraduate Programs	Innovative Program Responses
Depersonalization in relations between faculty member and student, and between student and student.	Creation of relatively small "primary groups" consisting of faculty and students who, by participating together in the learning process, come to know, care about, and develop a sense of responsibility for one another.
A program of fragmented and departmentalized courses which often relate to other courses within the same department but not to each other.	A program of courses organized in such a way that their materials flow into one another.
A curriculum that is isolated from the community and the world, with "credit"-yielding experiences revolving mainly around books, lectures, written papers, and artificial laboratory exercises.	Classroom, library, laboratory work blended together with direct experience in the community and the world as part and parcel of the curricular structure.
Outdated and inaccurate notion about how human beings "learn": teaching is mainly telling; learning is mainly receiving; the student is mainly an information-skills storage and retrieval unit.	Teaching and learning seen as a process of cooperative inquiry; a "dialectic" as opposed to a "didactic" approach.
Prevalence of notions of academic "success" which give the highest grades to the best gamesman; emphasis on faculty member as "judge" at the expense of his function as teacher and critic.	Liberation from the value system which creates the "grades game" between student and faculty; emphasis on faculty member as teacher and critic, with role of "judge" relegated to some other person or agency.
A pattern of student freedoms and controls--authority and status--that works against growth in students toward independence of mind, creativity, and responsibility.	A pattern of student freedoms and controls--authority and status--that reinforces the values professed by American colleges.

d) the relationships among learners and between learners and teachers during the "instructional" process;

e) the kinds of experiences the learner undergoes as part of his learning;

f) the total system of freedom-authority under which a learner pursues his studies.
(For an elaboration of these elements, see Chapter 3.)

GENERALIZATION 6. While a description of any given micromodel may begin by depicting each of the six elements, the picture is incomplete without an analysis of the way each of these elements interrelates with each and all of the other elements in the subsystem. The only helpful description of the model is a picture of it when it is thus "in motion." (See Chapters 3 and 4.)

It might be noted here once again that the present work, concentrating as it has on taxonomical problems and describing the elements *per se*, only begins the process of describing the model "in motion"--that is, actually working out the "laws" which connect the elements.

GENERALIZATION 7. One of the pivotal implemental elements in the curricular-instructional process is the relationship established between the faculty member and his students. Five faculty prototypes are established by this investigation: two "subject-matter-centered" prototypes, two "student-centered" prototypes, and one "instructor-centered" prototype. (See pages 113-70 and 177-84.)

The relationship of curricular research, curricular reform and student unrest. The final generalization that emerges from this report has to do with the relationships between: a) research on the curriculum, b) curriculum reform, and c) student unrest:

GENERALIZATION 8. The more practitioners in higher education know about how the curricular-instructional subsystem "works," the more intelligent will their attempts to reform the system be; the more intelligent these attempts, the greater the chances for the success of curricular reform. Since student unrest is due, in part, to curricular-instructional failure, research on the curriculum is of direct relevance to the general problem of student unrest now facing almost every campus in the United States.

This generalization needs some elaboration, perhaps; and it is appropriate therefore to end this report by commenting on the relationships between student unrest and curriculum reform. At the close of the 1964-65 academic year, the year of the Free Speech Movement on the Berkeley campus, the Danforth Foundation's annual report stated: "Nearly every discussion of student unrest points out the relation of that problem to the poor teaching that is often found on college and university campuses."

This relationship between student unrest and the poor quality of education in the nation's colleges could be pointed out publicly once student unrest had attained high visibility, but the relationship had been obvious, long before 1964, to researchers in higher education. The mass of research done in the 1950s, culminating in Nevitt Sanford's The American College (1962), was tellingly summarized by Sanford in his introduction: "American colleges are failing rather badly. They fail to achieve their own stated purposes; and they fail by other reasonable standards of accomplishment." Clark Kerr (1963), in his Godkin lectures which were delivered at approximately the same time, called for a renovation of undergraduate teaching. And a vast amount of other data concerning the impact of colleges on students (Jacob, 1957; Freedman, 1960; McConnell and Heist, 1962; Dressel and Lehmann, 1965; Trent and Medsker, 1968; Feldman and Newcomb, 1969) all points in the same direction: it reflects a failure that was already visible in the late 1950s. The failure had already become visible, in other words, at just about the time the current student activist movement, according to two of its closest observers (Katz, 1967; Flacks, 1968) was emerging.

The general failure of the American college and its relationship to student unrest is described in another way by Donald R. Brown (1967). He begins his analysis of the situation by enumerating students' expectations when they come to college: intimate contact with faculty and peers, a sense of community, the hope for deep interpersonal communication, true intellectual stimulation. All of these conditions, Brown says, "can make for an exciting student body," but "they can also make a restless college if the institution is not ready to meet these hopes." Brown's assumption is that if students' expectations are not met through structures that are set by the faculty, then students themselves "quite naturally will seek ways of interacting that are not necessarily congruent with the purposes of the university."

In 1964-65, a survey of 849 accredited four-year educational institutions conducted by Richard E. Peterson (1966) showed that conclusions about the relationship between student unrest and curricular-instructional failure did not apply merely to the handful of colleges and universities which had attracted the attention of television networks and newspapers. Peterson's data show that in over a fourth of the colleges included in his survey, demonstrations by students had involved curricular-instructional issues. And even where student protests had focused on non-campus issues (civil rights, for example), students might also have been expressing, even without knowing it, a desire and a need for curricular reform.

During recent years recognition of curricular-instructional inadequacy in American colleges has become almost universal. This condition is reflected in a statement that prefaces the 42 reforms recommended by the Muscatine Report (1966): "We sense that we are a part of a great national--and international--development, the response to an historical crisis in higher education." But the end of the story is everywhere the same: reforms are instituted and all too often do not seem to "take."

Why does the story typically end this way? In an important sense, that was the basic question with which the present project started in the fall of 1967. We surmised the answer might be found if we explored the "system" aspects of the process. Since the curricular-instructional process clearly works as a system, it was reasonable to suppose that faculty and administrators cannot change only one element in the system in any substantial way and expect the change to "take." There is a certain reciprocity between each element in the system and all of the other elements (although each has a certain autonomy, too), and before we can successfully reform one aspect of the process we must understand profoundly the connections between it and the other elements in the system.

The project began with the assumption that researchers and practitioners do not as yet understand what these interrelationships are or how they "work" and have not yet developed a language that is adequate for the analysis we need. Failing such a theoretical framework, we are not able to think through our problems except on a trial-and-error basis. It is as though we were spending our time determining which rain-dance choreography and which style of costume for our dancers were likely to bring water to the parched soil, when a reformer points out that in his opinion neither of those factors plays a significant role but suggests we institute a more rigorous set of standards governing the rain dance performances. The suggestion sounds good (there is general agreement that more rigorous standards ought to help) and so another "experiment" is instituted, resulting in yet another set of inconclusive data.

When practitioners join together to reform an element in the curriculum or in instructional practice, they are becoming involved--to a greater or lesser extent--with a whole complex of things, with an entire galaxy of overlapping spheres, with the whole System. It is evident that the more they know about how the System "works," the more intelligent their reform will be--and the greater the chances will be for its success.

It is the researcher's responsibility to study various aspects of the System and to analyze how they "work." In this way he can be of the greatest help to the practitioner. But the researcher's experience has often been frustrating: he uncovers one layer only to find a hundred other layers; he tries to sift out one question and discovers that he cannot separate it from twenty others. And while the researcher digs away as systematically as he can, the practitioner becomes impatient. His problems cannot wait.

Perhaps this report of our project at the Center for Research and Development in Higher Education will help explain to the practitioner why it takes so long. At the same time, however, he must surely know that the researcher on curriculum cannot--and does not wish to--close his eyes to the urgency of student unrest. If it is true that student unrest is, among other things, a symptom of curricular-instructional failure, then reform in that subsystem is badly needed--and it is needed now. But obviously we must know as much as we can about how it "works." We need to see the connections more clearly than we see them now. It will do no good to develop a new rain-dance choreography or train better dancers until we can discover more accurately whether those changes will ultimately bring us the rain we so desperately need--the rain that will cool things off and, more important, will activate the nutrients our studies have shown are embedded in the parched soil.

APPENDIX A

INTERVIEWS WITH DR. PRINCE AND DR. INNIS
(The Type-1 and Type-2 Faculty Members Described in Chapter 5)

Some of our interview material with various instructors is quoted in Chapter 5, but because of the limitation of space (and consideration for our readers), we excluded from our presentation a great deal of the extensive interview materials we have in our files. We are including as Appendix A some of these materials--two interviews with Dr. Prince and Dr. Innis, the Type-1 and Type-2 instructors described in Chapter 5. We are not presenting additional material in this appendix on Dr. Abbot and Dr. Perse (the Type-3 and Type-4 instructors), because our interviews with them have been extensively quoted in the text of Chapter 5. Moreover, an entire class session of Dr. Abbot's is transcribed, with commentary, in Appendix B.

The interview material as it appears in this appendix (and, indeed, as it appeared in Chapter 5) is not completely verbatim. It is, rather, a stylized presentation, synthesized from several interview sessions, retaining questions and answers I consider most significant, rewording them slightly and reordering the whole into a dialectically compact and intelligible unit. In treating the interview material in this manner, I am following the successful technique of the famous Paris Review interviews, which are a model not only of readability but also of accuracy in the most important sense. Such stylization, in my view, is absolutely necessary if interview material is to be quoted extensively; only then can it retain interest and significance. Though the Paris Review technique has by now been adopted in other literary work, I do not believe it has yet been used by behavioral scientists; I believe its advantages are self-evident and expect that it will be adopted more widely in the future among scholars in all fields.

INTERVIEW WITH DR. PRINCE--THE FACTS/PRINCIPLES-CENTERED INSTRUCTOR DESCRIBED IN CHAPTER 5

INTERVIEWER: Dr. Prince, how do you conceive of the teaching-learning process?

DR. PRINCE: How do you mean--the teaching-learning process? They are two quite different processes.

INTERVIEWER: You do not agree with those educators who regard them as two aspects of but a single process?

DR. PRINCE: Well, I have always assumed, when I have heard people say that, that they were deceived by the spacial and temporal factors which framed these two processes and which make them appear to be different aspects of a single line of communication. No, I see these two processes as distinctly different.

INTERVIEWER: You would agree with those who say, then, that it is appropriate for the student to play the role of learner at all times, and for the faculty member to be always a teacher--that there is to be no "mixing" of these roles? I mean, that there is a quite clear differentiation of roles between teacher and student during the times when teaching-learning is going on?

DR. PRINCE: I see no other view possible on this question.

INTERVIEWER: Would you outline for us what you consider to be the learner's role or task, then?

DR. PRINCE: It is the student's task, first of all, to master certain facts, principles, and tools in my field--there is a special vocabulary, there are a certain number of special concepts, and, also, it happens that in my field there is a small number of physical tools as well to be mastered--

and finally there is a total analytic framework to which all of this leads which must also be mastered.

INTERVIEWER: In your field, how long does all of that take to master? Or--am I asking a foolish question?

DR. PRINCE: Well, it is not exactly a foolish question. But I cannot of course give you a single or direct answer, as there are various levels of mastery. After the introductory courses have been completed, as students continue their studies in our field--I'm thinking now of those who choose to major in it--their knowledge of the special vocabulary, of our special concepts, of the tools used in the field, and of the general analytic framework all becomes more refined, more detailed, more complex.

INTERVIEWER: Perhaps a better way of asking my question is this: How long must your students study facts, principles, tools, and total analytic framework before any of the "problems" relevant to your field can be systematically explored by students?

DR. PRINCE: Well, it is necessary to master the fundamentals quite well and accurately before any problems as such can be explored. Of course we invent some rather artificial and relatively simple "problems" to use illustratively even in our most elementary courses. But that is, I take it, not what you meant.

INTERVIEWER: No, I meant real life problems, as it were. The problems the newspapers and magazines talk about.

DR. PRINCE: Well--those! Probably not until the senior seminar. Even then, the student is hardly equipped to grapple with the intricacies of the problems as they actually exist in the real world. Of course, for pedagogic and analytic purposes, we do formulate a certain number of academic problems which, as I say, we introduce to students even in our elementary courses. But it can hardly be said that these problems, in any way, resemble the overwhelming problems--many of them not even solvable at present!--which we are attempting to grapple with outside of the academic classroom.

INTERVIEWER: I do not mean to push the point--but do you use class time, ever, to present or discuss some of these?

DR. PRINCE: Oh, yes, indeed we do. This adds to the zest and excitement--and perhaps also to a feeling of relevance--in our class session. But that is, you might say, really only incidental to our study of the subject matter covered by our discipline.

INTERVIEWER: There has been a great deal written about changes in students that take place in college--that is, ways in which they are different when they finish college from what they were when they arrived on the campus. How would you describe the major change you see taking place in your students?

DR. PRINCE: Well, the major change, of course, is that they gain a systematic knowledge of my field that they did not have before.

INTERVIEWER: And is that the main basis, then, of your course grade for each student?

DR. PRINCE: Yes. I expect a certain knowledge to be mastered. This can be "measured"--not with precision, of course, but we have several good yardsticks in our field--and we have standards according to which we assign each student his grade for the course.

INTERVIEWER: Well, now, you have outlined what you conceive the student's task to be, and how you judge his excellence in accomplishing it. What do you conceive your own task to be--as a teacher?

DR. PRINCE: Well--to state it simply: to help students master the facts, principles, concepts, and so on, which my colleagues and I have determined will be covered in the particular course in which they are enrolled. That's a very brief answer; would you like me to amplify it?

INTERVIEWER: Thank you. Perhaps presently. Do you and your colleagues plan together what should be covered in each one of the courses offered in your department? Is it done cooperatively?

DR. PRINCE: Yes.

INTERVIEWER: Is there very much of a problem in planning the courses?

DR. PRINCE: Actually, no. In our field, there is a fairly standard way of ordering our subject matter. Some of it is arbitrary--indeed quite arbitrary--but a good deal is based on the logical and natural divisions within the material itself.

INTERVIEWER: I see.

DR. PRINCE: That is, I am speaking with reference to the undergraduate program. On the graduate level, there are rather different problems in the organization of our courses due to a controversy between my more theoretical and my more pragmatic colleagues. On the undergraduate level, however, there is a standard way of arranging the courses which is traditional in my discipline.

INTERVIEWER: Some faculty members in other departments occasionally talk about organizing a brand new course and then "learning" it along with the students. Is there any sense in which you do this in any of your undergraduate courses?

DR. PRINCE: Well, occasionally--when, for example, we adopt a new textbook and are using it for the first time--

INTERVIEWER: But is there actually new substantive material you are learning with your students when you do this? Do you, for example, have insights into the nature of your subject matter which you did not have before--as a result of discussions with your students?

DR. PRINCE: No, I would have to answer in the negative. It seems to me that it is not possible for a qualified college professor really to "learn" anything within his own field from an undergraduate. I should think this would be true in every field. After all, we have already mastered the materials we are teaching, hence we could not actually be learning with our students--except when we pretend to, for pedagogical purposes. Occasionally I do that, but it is really only a teaching device.

INTERVIEWER: No, I was referring to some genuine insights which come to you during the course of a class discussion.

DR. PRINCE: No, that is not likely to happen in a course with undergraduates. My colleagues and I do, of course, at a stage far more advanced than our undergraduates, continue to "advance" in the field--though hardly in the same way in which our undergraduate students are learning the basic materials of our field.

INTERVIEWER: Should it make any difference to one of your undergraduate students whether he has you for a given course or one of your colleagues?

DR. PRINCE: It apparently does make some difference to students. They appear to see some differences between us. But that was not your question. You asked whether it should make a difference. It actually should not. All of my colleagues and I would each cover the same material in about the same way when we teach the same course. I do not mean to overstate the matter; of course there would be many variations--perhaps hundreds--from one to the other. But none of these differences should be significant--though, occasionally, students might be influenced in their motivation or in other ways by these differences.

INTERVIEWER: I see. If you could conceive of a state of perfection--with respect to this question--then the differences between yourself and your colleagues, as you teach any given course, would be so insignificant as to make no difference to any student. Is that correct?

DR. PRINCE: Yes. The ideal toward which my colleagues and I strive is for each of us to maximally help each student master the tools, principles, etc., to be covered by each course.

INTERVIEWER: If that day came on which everything went as you most wished it might--to perfection--what sort of picture of your class comes to mind?

DR. PRINCE: Well, let me see. Every student--this is the picture I see--completes the course, takes the examination, and makes the perfect score!

INTERVIEWER: Is the examination in this ideal picture a difficult--I mean an infinitely difficult--examination?

DR. PRINCE: No, not at all. It is a perfect examination. By that I mean it has a perfect sampling of test questions covering every aspect of the course--facts, principles, special vocabulary, analytic framework, the concrete problems included in the course syllabus. And the questions in such an examination would probe into these matters at the level appropriate to the course. (Smiling.) You see, even in my imagination, I am being realistic!

INTERVIEWER: But in your vision you wished for a perfect score for every student.

DR. PRINCE: Yes, I wished for no less than a perfect score for every student on such an examination. But even as I envisioned the ideal, I did not wish for more!

INTERVIEWER: Yes, I see. (Pause.) Let me change the subject, Dr. Prince. What is your feeling about the development of students as people--

you know, the growth of the whole person, and so on?

DR. PRINCE: That is very important, of course. And to the elementary or secondary teacher it is exceedingly important--though even in the secondary schools now, a great deal more attention is coming to be paid to the academic side of an individual's education. On the college level, we have always been concerned primarily with academic development. The other aspects of a person's growth are important, too, and our college provides ample opportunity for this. But that of course is not part of _my_ job. I am interested in the intellectual side and, of course, in professional development.

INTERVIEWER: It is often said that the factors which motivate students are mainly irrational and non-intellectual. What is your attitude toward this? Are you influenced by such considerations in your teaching?

DR. PRINCE: Not very much. I like to work in an atmosphere that is as emotion-free as possible.

INTERVIEWER: Forgive me for putting the question this way, but your comment has paved the way: Would you not wish to be admired by your students?

DR. PRINCE: Well, no. That is more or less irrelevant.

INTERVIEWER: And I assume that you do not ask for--(_smiling_) love.

DR. PRINCE: (_Seriously_.) That's right. I see these emotions only as an interference.

INTERVIEWER: They do not, as some people claim, help students learn. Is this, roughly, the stand you would take?

DR. PRINCE: I cannot speak for my colleagues--and I am sure there are a number on this campus who differ sharply with me--but as for myself, my task can best be done in an emotion-free atomsphere. And I expect my students to do their part in keeping that atmosphere unpolluted.

INTERVIEWER: Let me ask you to imagine this situation. Suppose a student came into your office and made himself comfortable in the chair alongside your desk in which your visitors normally sit--well, the chair I'm sitting in now. And then, without so much as a by-your-leave, he puts his feet up on your desk. When you look up, there he is grinning at you. Good-naturedly, I want immediately to add. How do you think you would react?

DR. PRINCE: (Looking grim.) It's difficult to conceive . . .

INTERVIEWER: Of course. But suppose it did happen.

DR. PRINCE: I would just stand up and quietly ask him to leave. And of course I would expect an apology of some sort.

INTERVIEWER: Why would you expect an apology?

DR. PRINCE: Because I had not been treated with respect.

INTERVIEWER: I see. (Pause.) One last question. As a department chairman I know you spend some of your time recruiting new faculty. What do you look for?

DR. PRINCE: The candidate's reputation in the field is primary--or, in a young man, promise and potential. Of course, he should have certain other qualities as well.

INTERVIEWER: Such as---?

DR. PRINCE: Oh, he ought to be articulate, and patient, and he should be capable of getting along well with colleagues. (Pause.)

INTERVIEWER: We appreciate the time you have given us. Thank you.

INTERVIEW WITH DR. INNIS
(THE INSTRUCTOR-CENTERED INSTRUCTOR DESCRIBED IN CHAPTER 5)

INTERVIEWER: We have just seen you teach, and we perceive that in your conception of your own role as professor--"your job"--the transmission of knowledge to your students takes high priority. Is that correct, Dr. Innis?

DR. INNIS: Yes, that's right. Part of my job is to transmit to my students some of the knowledge I have in my special field.

INTERVIEWER: You say that part of your job is to do that. What---

DR. INNIS: Yes. Giving my students special knowledge is only a part of my job. There is a more important part. I do not regard myself simply as a specialist in my field; I am also an educated man. (Smiling.) Please forgive me for speaking so directly, but if I didn't regard myself as an educated man I wouldn't be teaching in a college.

INTERVIEWER: You feel, then, that it's possible to be both a competent specialist and an educated man generally?

DR. INNIS: It's not only possible--for a college teacher, it's imperative. As a teacher of undergraduate students, I must not be simply a specialist. I must be a specialist who looks at the world around him and sees the relationship between my specialty and all of the problems facing mankind. To be able to do that is to be "educated."

INTERVIEWER: And I take it that is what you mean by the "more important part" of your job?

DR. INNIS: That's right. That is where I can be most useful to my students. Because I assume that they are interested in becoming educated men and that they are not at this college just for career preparation.

INTERVIEWER: Do you think your students are *really* interested in becoming educated men?

DR. INNIS: Certainly. If they are not interested in becoming educated men, then we are both on the campus--they and I--under false pretenses. There would be no point in going on, not seriously at any rate.

INTERVIEWER: In your view, how can students best learn to become educated?

DR. INNIS: The answer is simple, although the process is complex: they can become educated by imitating people who are already educated. I mean imitating models of educated men who are respected by the world of higher education and by society in general.

INTERVIEWER: In other words--and please excuse *me*, now, for being so direct--by imitating you, among others.

DR. INNIS: Well, yes. If I could not be imitated, I would have no right to be here.

INTERVIEWER: But surely you don't mean imitated in *every* way, as that would make a professor's job impossible--or certainly unbearable. (*Dr. Innis nods.*) In what ways, then, precisely?

DR. INNIS: Basically, my job is to demonstrate to students what an educated man does with the materials of my particular field. It is not the materials of the field, however, that are at the center of the teaching process--it is what I do with them.

INTERVIEWER: Do you do very much that is different from what your colleagues do?

DR. INNIS: I don't understand precisely what you mean by the question.

INTERVIEWER: I mean: Is what you do *unique*? Or do most of your colleagues--those in the same field--do very much the same thing? I mean not only your colleagues on this campus but everywhere.

DR. INNIS: Of course, those I admire do very much as I do. Still, each one of us is unique. Each of us has his own way of conceiving, defining, intuiting, analyzing, double-checking, arguing, synthesizing, verifying, reasoning, formulating. And not only are all of these intellectual acts unique to me as an individual, but my other acts are highly individual as well--my anger, my laughter, my wit, my visions, my hopes, my judgments, my universe.

INTERVIEWER: And is this what you try to present to your students?

DR. INNIS: Yes, yes. All of it.

INTERVIEWER: I want to frame my next question as neutrally as possible. If someone were to say that you appear to be an egoist, how would you react?

DR. INNIS: I would say the statement is correct: I appear to be an egoist. But frankly, I do not feel that I really am. In my courses, I place myself at the center of the students' life, not because I am egocentric, but because it is the best way in which to carry on the process of educating young people.

INTERVIEWER: Still, even if one would not be justified in characterizing you as egocentric--and I am by no means suggesting that you are--is it not true, nevertheless, that you place yourself at the hub of the teaching/learning process? But what about your students? Where are they?

DR. INNIS: Surely one can't deny that my students are of tremendous importance in the process. After all, my whole purpose is to affect them.

INTERVIEWER: But your criterion for your own success, if I understand you correctly, is the degree to which each of your students becomes more like you. Isn't that right?

DR. INNIS: I really must object to that way of putting it. For one thing, it is not the total me . . .

INTERVIEWER: No, I meant the educated-man you.

DR. INNIS: Let me put it this way: Yes, I consider myself most successful when my students become most like the people I admire . . .

INTERVIEWER: But . . .

DR. INNIS: . . . when they are able to imitate the approach, perspective, conceptions, formulations of someone I admire, some first-rate scholar in the field.

INTERVIEWER: How do your students know who it is you admire?

DR. INNIS: It's obvious from my lectures, from the required and recommended readings, and so on.

INTERVIEWER: I see. Do you teach mainly by lecturing?

DR. INNIS: Yes. But you must understand that the lectures are not what you might call straight presentations, such as one might get from a textbook. They are, rather, demonstrations.

INTERVIEWER: Do students participate in any way?

DR. INNIS: Generally I allow time following my lectures for a discussion--mainly to clarify points in the lecture that did not come through. Students of course participate freely at that time.

INTERVIEWER: May I backtrack? You said a minute ago that you judge your success as a teacher by the degree to which your students are able to imitate the approach, perspective, conceptions--and so on--that you yourself have presented to them, or that are characteristic of scholars whom you admire in the field. How are you able to judge your success?

DR. INNIS: Oh, papers, bluebooks, and so on. There the student has an opportunity to show whether he can handle the materials in the ways I have demonstrated.

INTERVIEWER: How do you know that he is not just repeating what you have given him in the lectures?

DR. INNIS: Quite simply. The tasks that are set for required papers and in my examination questions are similar to those I have demonstrated, but they are to be applied to different contexts--contexts that I may not even have touched on in my lectures.

INTERVIEWER: This is a routine question: What evidence do you give the student to assure him that you are interested in him, that you are not neglecting him?

DR. INNIS: The evidence is clear. I give as perfect a performance as possible, and I am sure the students feel this. On my part, a perfect performance is imperative--otherwise I would run the gravest of risks. I must be as perfect a model as it is possible for me to be, because I cannot predict which of the myriad things I say or do will take root. Students will imitate what they want to imitate, and what they can. And since I cannot predict which precise feature of my performance will find its way into a given student's mind or heart, I must strive for perfection throughout.

INTERVIEWER: I see.

DR. INNIS: I must be the best specialist in my field that I can be. And beyond that, in every feature I display to students I must be as perfect a model of an educated man as I can manage. (Pause.) I'm sorry. What was your question? I'm afraid I got off the track.

INTERVIEWER: I had asked how the student knows you are not neglecting him.

DR. INNIS: Yes. What I said is all related to my answer. In the way I teach, it is obvious that the student's eye is more on me than mine is on him. Yes, that is true. But it must not be read as neglect. And I believe I have ample evidence that students do not read it so--not what you would call "objective" evidence, I suppose, but it satisfies me.

INTERVIEWER: Dr. Innis, suppose a student came into your office and made himself comfortable in the chair here in which your visitors normally sit. And then, without so much as a by-your-leave, he puts his feet up on your desk. When you look up, there he is grinning at you. Good-naturedly, though. How do you think you would react?

DR. INNIS: You say this is one of my own students?

INTERVIEWER: Yes.

DR. INNIS: And what does he do? Tell me again. He---

INTERVIEWER: Well, he sits down right here in this chair, stretches back and puts his feet up on your desk--right about there. And when you look up, he is looking at you good-naturedly, smiling---

DR. INNIS: Well, I think I'd--to be frank--I'd be shocked.

INTERVIEWER: May I ask why?

DR. INNIS: Well, students don't normally treat me that way.

INTERVIEWER: Yes, I understand. But what would you say or do?

DR. INNIS: I think I'd just stand up on my feet. And of course, he would then stand up too. And we would resume our conversation that way, standing. And then I'd probably say: "Please make yourself comfortable," pointing to the chair. But then I would make some joke to keep him from putting his feet up on my desk.

INTERVIEWER: A joke? Like---

DR. INNIS: Oh, a joke that would show him I was displeased. (Pause.)

INTERVIEWER: You've been very good to let us visit your class today and give us your time after class. Thank you very much.

APPENDIX B

TRANSCRIPT OF A CLASS SESSION TAUGHT BY DR. ABBOT (TYPE-3 INSTRUCTOR, AS DESCRIBED IN CHAPTER 5) TOGETHER WITH A RUNNING COMMENTATY

As Chapter 5 explains, we amassed a great deal of interview and transcript material since we recorded a number of the class sessions we visited and interviewed the instructors, asking questions about their teaching styles. One of these classes was taught by Dr. Abbot (the "abilities-centered" instructor described in Chapter 5), and we are reproducing the transcript of that session here *in toto*. It has, of course, been edited for ease in reading but the revisions have all been of a minor sort.

Dr. Abbot listened to the recording afterwards with us, stopping it at various points while we conversed about it. We have a transcript of that conversation and in the following pages, we often quote from it; in addition, Dr. Abbot worked with us, helping us get the transcript itself into shape for publication, and he often had additional comments to make as we worked together. A transcript of a class session is a staggering task to undertake--as anyone who has tried to transcribe the tape of even an orderly panel discussion knows. In that endeavor, Dr. Abbot was most useful to us; and I wish to take this occasion to thank him and the personnel of the program he permitted us to observe--called The Freshman Program of Integrated Studies--at San Francisco State College during the fall and winter of 1967-68.

The particular session we recorded was in a general course in the humanities. The class was in the middle of its discussions on Shakespeare's *Hamlet*.

When we asked Dr. Abbot what he hoped to help students achieve, he emphasized how important he considered it for them to acquire a rather definite set of complex skills for reading literature--skills that they would be able to continue to perfect after they left their formal study with him. In his role as "transmitter" of knowledge, Dr. Abbot indicated he was much more interested in the process than in the product. (As Chapter 5 makes clear, that phrase and the particular distinction it points to are cornerstones in the structure of Dr. Abbot's thought about his role as teacher.) Having heard these ideas before we made our first visit to his class, we were not surprised to discover that his class activity focusses primarily on teaching students to work within a particular methodological framework.

All of his students, Dr. Abbot explained to us, are expected to formulate an "interpretation" of each work of literature that is required in his courses; and some of the students are asked to present that interpretation to the class--informally, via give-and-take inquiry--defending the view they put forward as questions and objections are voiced by other members of the group.

The word "interpretation" has a clear and concrete meaning for both Dr. Abbot and his students. The group understands the word to mean a statement about a book (or any work of art) as a whole, indicating what it portrays or depicts or shows or demonstrates. The "defense" of the interpretation consists in showing how it "fits"--indeed, illuminates--various details and other parts of the artwork. This is the reason why, when the student named Albert is asked to begin the discussion on the day this transcript was made, he says that he has attempted to formulate an interpretation of Hamlet but fears it does not "fit all the facts."

It will be helpful to state at this point what came out only later in our interviews--namely, that Dr. Abbot tries to teach members of his class in literature to use three major criteria for judging someone else's interpretation of a literary work. One criterion is to reject an interpretation, however attractive it might appear, which contradicts the "facts" given in the work. (More on that point in a moment.) The second criterion is to consider only those interpretations acceptable--and therefore deserving of further probing--which can satisfactorily account for all the details given in the artwork. The third criterion is to choose from the various acceptable interpretations, the one that gives the work the greatest richness and depth; and this choice, Dr. Abbot explained to us, would of course vary from one individual to another. However, it is important to point out that according to Dr. Abbot's view, a group of students, whether young or mature, can discuss a work of art and come to general agreements about attractive interpretations which must be rejected and attractive interpretations which prove acceptable; in other words, he believes there are many questions about the interpretation of a work of art that can be discussed objectively.

After Dr. Abbot explained these three criteria to us, we asked him in connection with the first one, what he meant by "the facts given in the artwork." He answered: "I mean any of the kinds of data that you find in a play or novel or short story and so on--like what the characters do or say, or what the narrator says, or how a character thinks about another person or issue; or the way events are presented as consequences of other events or of particular points of view."

THE TRANSCRIPT OF DR. ABBOT'S CLASS

1. INSTR: Albert, would you begin today? Tell us about - oh - the history of your thinking about Hamlet --

2. ALBERT: At first, I struggled about five hours to understand what he was saying. Then, on the basis of our discussions in class, I attempted to formulate an interpretation. But I don't think it fits all the facts. As a matter of fact, I haven't even attempted to --

3. INSTR: Would you rather not give it now?

4. ALBERT: I'll attempt to give it. It's a combination of - I think that --

5. INSTR: Shall we --

6. ALBERT: -- we can concentrate on Hamlet's character. First I want to (balance of sentence indistinct in recording).

7. INSTR: Can everyone hear Albert? Betty, would you move over and let Albert move up to the table. (Commotion as space is made for Albert at the table.)

8. ALBERT: The significant trait of Hamlet's character, as I see it, is his idealism. (Slight pause; instructor and Albert speak at the same time.)

9. INSTR: -- then you agree with Charles on that point?

COMMENTARY

#1-4 We asked Dr. A. why he opened the session as he did and, in reply he made two points. The first point was that this is his typical way of opening--namely, simply asking a student to start the discussion, occasionally followed (as in this case) by an open-ended question expressed rather casually. His second point was that Albert's concern (about fearing his interpretation does not "fit") is probably being expressed out loud here (in #2) as a form of protection, in case he is not able to defend his interpretation adequately during the course of the discussion. Dr. A added that if Albert had not been adequately prepared or had not had confidence in the strength of his interpretation, he probably would have taken advantage of the opportunity Dr. A gave him in #3 to withdraw. But, as the intonation and tempo of the live recording show, Albert's response in #4 indicates that he is actually eager to make his presentation.

#8-9 Since the transcript is of a discussion session which comes in the middle of a series of sessions on Hamlet, Albert, it turns out, was not the first to present his interpretation of the play. At the last session, another student, Charles, had presented his interpretation to the class. Thus one of Dr. A's first observations about Albert's interpretation as he just begins to give it in #8, is to make comparisons between it and Charles' (#9).

10. ALBERT: Entirely, yes.

11. INSTR: Entirely?

12. ALBERT: I mean as far as this is concerned. As far as idealism is concerned. Hamlet's idealism is shattered by the hasty marriage of his mother.

13. INSTR: Shattered.

It is therefore important to point out that Dr. A's first substantive comment in this discussion is not an acceptance or rejection of Albert's point but an attempt to establish agreement (or disagreement if it had turned out to be the case here) between the student who has the floor and a student who had previously spoken.

#13 In connection with #13, where Dr. A simply repeats what Albert said with no further comment, two observations are relevant. One is that Albert is a foreign student and speaks in a gentle voice; hence Dr. A appears to be concerned that everyone in the class should hear and understand him without strain. Aside from his strong accent, Albert's English is excellent. (His occasional errors in syntax have been corrected in the editing of the transcript, however, for fear they would interfere unduly with ease of reading.)

The second observation is more important. When we asked Dr. A why he repeated in #13 what Albert had said, he replied: "Well, I don't know exactly. I often do it--but not always for the same reason. In this case, Albert had paused, and that may just have been my way of saying, 'Yes--go on.' In any case, my repeating what a student says does not mean I agree with it."

Dr. A explained that he felt it his function at this point, his role, to help Albert clarify what was in his mind and, if possible, help him expand and refine what was beginning to take shape. The instructor does not at this point or even later in the session do very much by way of "evaluating" or rendering judgment about a student's comment. His role as critic or judge does not become important, as he explained to us in our interview with him, until after he has been able to establish the kind of rapport with the student which would permit him to act effectively as a critic or judge. At this point in the semester, however, that is, the point at which this recording was made--he does not feel he has established the kind of rapport which would permit his playing that role. The students do not yet, he explained, trust him enough to accept him in that role.

It generally takes about half a semester, Dr. A explained, for a student group working with him to overcome the distrust students typically feel toward faculty members. (This transcript was recorded shortly before the middle of the semester.) He does not want students to accept his ideas through fear or because they want to get a good grade, nor does he want them to reject his ideas because of some irrational attitude toward authority figures. In other words, as he explained to us, he has to work toward a relationship that will permit the group to accept or reject his ideas (including his criticism of their ideas) in a relaxed, natural way. We asked him if he ever has a class where that relationship never becomes established. "Unfortunately, yes," he replied, "but that doesn't keep me from trying over again the next time."

14. ALBERT: Shattered. So when he realizes that his father was killed by the uncle who is now married to his mother, he decides that he is - he is supposed to avenge this. Well, then come the ethical conflict, and this delays the murder. He really has only a single opportunity, and that is at the Prayer Scene. So since he misses this opportunity, and tries to rationalize it - that he didn't want to kill the King if he's going to heaven -

15. INSTR: He rationalizes? That isn't his real reason?

16. ALBERT: No, that isn't his real reason.

17. INSTR: He's motivated by some other force?

18. ALBERT: Yes. I think the ethical conflict within him is just because he wouldn't -- Well, the killing of Claudius at this moment would be just assassination in cold blood. It wouldn't be an act of self-defense, as it was against Polonius and Rosencrantz and Guildenstern.

19. INSTR: But you're saying that this moral conflict is not on a conscious level - is that correct?

#19 In our interview, a guiding principle was explained by Dr. A; in order to help the student clarify what is in his mind and expand and refine what is beginning to take shape, the instructor has to be careful about putting words in the student's mouth which express ideas in his mind but not the student's. Dr. A indicated that he was aware of this danger and told us during the interview that it took considerable self-control to follow this guideline.

We asked whether his statement at #19 was a violation of this principle; and as we studied the transcript together, Dr. A expressed astonishment that he claimed Albert was saying something which, in fact, the recording and transcript show Albert had not actually said. Nor, Dr. A also admitted, is the point made in #19 clearly enough implied by #14 and #18 to justify the wording of his question in this particular way. He commented further as follows: "Of course, the question I was asking there is significant, but I should have led up to it differently." We asked him how he would do it if he could do it again, and he replied: "Well - something like: 'Is this moral conflict - as you see it, Albert, on a conscious level or not?'" He said then that he assumed Albert's answer to that question would have been "No." But he pointed our further that it is assumptions of this kind which the instructor who is leading a student-centered discussion must be on guard against making.

Moreover, such a line of questioning would have given Albert a chance to express his interpretation in his own way, as best might fit his own conception.

Albert is actually a patient, slow-speaking, serious student, and there is no outward sign that Dr. A's interruptions are proving frustrating to him; but of course much of what is happening inside is not outwardly visible. Perhaps it is germane to add that Albert is accustomed to a much more authoritarian atmosphere in classrooms in his native land, so his threshhold for being frustrated by a teacher's interruptions is probably quite high.

20. ALBERT: I would think that --

21. INSTR (interrupting): Do you know why I am asking the question?

22. ALBERT: Yes.

23. INSTR: Why?

24. ALBERT: Because if it is on a conscious level, it would appear in one of the soliloquies.

25. INSTR: In the soliloquies.

26. ALBERT: I think there is some evidence, where he says --

27. INSTR (interrupting): Well, let's not cite evidence just yet. We want to be a bit clearer about your interpretation of the whole play. O.K., how do you go on?

28. ALBERT: I think that's the basis of it.

#27 Again, in our exploring with Dr. A the attitude he had earlier expressed about his caution in acting as judge and critic, we asked him whether it was not likely that a faculty member, though trying to avoid any overt judgmental reactions to a student's comments (until he had established the kind of rapport that would have made such statements possible), would still reveal to the student (and the class) his positive or negative reaction through such clues as tone of voice, gesture, and even tempo of utterance. For example, we wondered whether his stopping Albert rather abruptly at #27 did not imply some sort of rejection; we pointed out that Albert's withdrawal from the dialogue at #28 could be interpreted to indicate his perception of rejection. This portion of the interview is worth quoting:

INTERVIEWER: May I make a comment about #27? I thought you stopped Albert just then pretty abruptly.

DR. A: Yeah, it sounds that way in the playback.

INTERVIEWER: Didn't it seem that way to you when it was happening in the actual discussion?

DR. A: No. I was astonished at this when I heard the tape for the first time.

INTERVIEWER: And in #28, Albert may really be withdrawing from the dialogue here. Did you feel that, during the session - I mean as a possibility?

DR. A: No, I did not. But it's possible - I see this now. He may be reacting to my hastiness in #27.

29. **INSTR:** Uh huh. (Pause) David, what do you take to be Albert's central point?

30. **DAVID** (confused): Well, I'm just putting it all together.

31. **INSTR:** It would be good to have a restatement. Evelyn, would you restate it?

32. **EVELYN** (who has been looking at her text): I can't restate it. I have been looking up a point here. (Laughter from some members of the group.)

33. **INSTR:** In order to question Albert about something?

34. **EVELYN:** No, just to get it clearer in my mind about these self-defense killings.

#29-30 Another example we asked Dr. A about--also related to his apparent acceptance but possible real rejection of a student--concerns utterances #29-#31. There, Dr. A has just asked David to restate Albert's central point. David appears confused and is not able to respond. We wondered whether Dr. A had any particular reason for not pursuing the dialogue with David after his confusion of #30. He made clear to us that a general expectancy is set up in his discussion classes that students try to follow what other students are saying and, if they do not understand what is being said, must take the responsibility for interrupting the discussion and asking for clarification.

In explaining his style of teaching to us, Dr. A stressed the fact that he was not in the habit or restating students' comments for the rest of the class. Indeed, he drew a strong distinction between himself and more typical instructors who, when they lead discussions, always restate points made by students when they agree with those points. Hence, a passive student in such a class can listen only to the instructor and not to his classmates and need not fear losing anything important in the discussion. But, as this transcript clearly shows, such is not the case here. In the interview, we pointed out to Dr. A that David does not rejoin the discussion at any time later during the session and we wondered whether his possible rejection--or what he might himself have interpreted as a rejection--at #31, might have had anything to do with his lack of overt participation subsequently during this session. (Dr. A expressed some irritation with us and admitted that this was of course a possibility. We felt he was also, to some extent, made somewhat uncomfortable by our question although we tried not to put it unsympathetically.)

#32 In #32 and the utterances which follow, it is to be noted that Dr. A does not leave Evelyn (as he had David) even though she is not able to restate Albert's point either. Indeed Evelyn had begun to look up a point Albert had made in #18 and therefore had almost certainly missed what was being said since #18. It is for that reason that she was not able to restate Albert's point at #32. It is important to stress in this analysis, the fact that the instructor does not rebuke her; indeed, during the interview with us he said, "She was participating - and in a very good way."

35. INSTR (to Evelyn): Uh huh. What exactly--

36. ALBERT (interrupting): I would be able to restate it.

37. INSTR: You want to restate it yourself. Well, but I wonder whether there's been any communication at all during the last five minutes. Frank, could you restate it?

38. FRANK: Al says that before the action of the play begins, Hamlet was an idealist. And that his idealism was shattered by the marriage of his mother with his uncle. And he said that during the action of the play it was largely a moral conflict--no, he said "ethical conflict"--

39. INSTR (interrupting): Any difference in your mind between a moral conflict and an ethical conflict?

40. FRANK: Yes.

#37 Here, Dr. A is completely explicit about his concern with adequacy of communication. In our interview we asked him whether this concern needed to be as explicit as he made it. In reply, he said that he was not certain; he also stated that as students become conscious of what is expected of them, such explicit expressions of concern on the part of the instructor could (and should) take place less and less frequently.

The principle involved here is this: as the instructor's total method of inquiry--including a conception of the various roles that students and instructor play--becomes second nature to the group, less and less explicit reference needs to be made to it. However, Dr. A pointed out that if successful sessions in the future are to take place, it takes very hard "training" in the beginning sessions of a course. Hence, during the beginning weeks of a semester, Dr. A is intensely--"almost compulsively," he told us--concerned with problems of methodology and procedure ("How do intelligent people discuss such problems?" is the central question at that point); whereas, as the semester moves on, procedural and methodological matters become semi-automatic, and substantive questions move to the center of the stage. The session recorded here took place just before the middle of the semester; and while the students appear already to be comfortable in Dr. A's framework, it is obvious he is still very much concerned with adequacy of communication--indeed, almost more so than with substantive questions. But Dr. A told us that his explicit concern quickly diminishes as students learn how to carry on dialogue.

A final comment which Dr. A made to us during one of our interviews about his concern with adequacy of communication is worth quoting: "It's a kind of eye opener to the student if he discovers, as he often does, that no one can really restate - I mean, to his satisfaction - a point he has made!"

#39 As the reader will discover, this question (the difference, if any, between "moral" and "ethical") looms up again, several times, later in the session.

41. ALBERT: There's no difference.

42. INSTR (to Frank): Albert says that for him there is no difference.

43. FRANK: All right. then it's a moral conflict - whether Hamlet should kill Claudius or not.

44. INSTR: Whether he sould kill him or not. It that where the conflict lies? (Frank shakes his head "Yes".) O.K. (Indicates that Frank is to continue with his restatement.)

45. FRANK: I think that's all.

46. INSTR: Well, he went on to say that there was only one opportunity, and Hamlet didn't take that one, but rationalized.

47. FRANK: I don't accept that.

48. INSTR: Well, you aren't --

49. FRANK (interrupting): I know. I know. That's what I say. But I probably forgot it in my mind.

50. INSTR: Oh, I see. Then you're inquiring into your own motives? Your behavior?

51. FRANK: Yeah. (Hesitates.)

52. INSTR (to Frank): Please go ahead.

53. FRANK: Well, I think that's all.

54. INSTR (to Albert): Has Frank restated your point adequately?

#38-54 It does take time here for Albert's point to be restated. The class session moves from #38 to #54 before Albert's point has been restated sufficiently for the instructor to ask Albert whether he is satisfied with the restatement.

#49-50 During the course of the restatement, the instructor as well as the student attempting to do it, Frank, cooperate on the job. During this process of working together, an interesting thing happens: when Dr. A reminds Frank of an important aspect of Albert's statement which Frank omitted in his restatement, Frank says (in #49) that he forgot to mention the point (which Dr. A himself had to add in #46) because he, Frank, didn't agree with it. It's an interesting insight set forward by the student himself, related to his own behavior; and Dr. A is quick to point that out to him (in #50).

55. ALBERT: Yes, I think so. I would like to add this: Because Hamlet has - has this ethical conflict, he doesn't even look for his opportunity like the others, Laertes, for instance --

56. INSTR: Hamlet doesn't --

57. ALBERT: - but Hamlet doesn't want to because - he doesn't want to create the opportunity.

58. GEORGE: (raises his hand, is recognized, addresses Dr. Abbot) I'd like to ask you, what is the difference between an ethical conflict and a moral conflict? Is there a difference?

59. INSTR: In my vocabulary? No. The terms are interchangeable in this context.

#54 The question in #54 where the instructor asks Albert, "Has Frank restated your point adequately?" seems to be typical of the technique used in this class. Dr. A explained the general principle to us as follows: The group should not expect that the instructor will consistently restate a student's point; this is a common expectation, however, in most so-called discussion classes.

Dr. A pointed out further that in most typical classes, instructors not only restate a student's point but immediately tell the class whether they think it is a "good" point or not. This, the instructor in the present session does not do.

When we asked him why he does not immediately evaluate a student's point, he indicated that he did not think "anybody can learn anything that way--I mean, anything significant." He went on to explain he did not believe that anyone could learn anything important to his development by having it told to him by an authority figure.

#58-59 As the transcript shows, Dr. A is in the habit of not giving direct replies to questions that are addressed to him. Instead he throws them back to the group - after, sometimes, rephrasing them or refining the wording or syntax.

Nevertheless he does answer directly in #59 the question that George raised in #58. This question (#58) refers to a point stated sometime back (#39-42); apparently this point has been bothering George, but he does not say anything about it until #58. (The probability is that he has heard with only half an ear what has gone in between #42 and #57.)

It is significant that this particular question is not one that the instructor chooses to throw back to the group but one he answers directly. Dr. A explained his reason: "Well this is an incidental point, needing immediate solution, which should not have been permitted to hinder the progress of the discussion."

60. **INSTR** (to Henry, who asks for recognition): Henry.

61. **HENRY:** I'd like to ask Albert to clear up a little bit of this ethical conflict. Just what is the conflict in Hamlet's mind. It's evidently whether he should kill Claudius or not. But what is the pro and con of it? I mean --

62. **ALBERT:** Whether to kill a person --

63. **HENRY:** To kill a person?

64. **ALBERT:** Yes.

65. **HENRY:** It's nothing - I mean, would he have the same conflict if he were asked to kill anybody? I mean the fact that it's Claudius, his mother's husband, and it's his uncle, King of Denmark now - that has nothing to do with it?

66. **ALBERT:** It has something to do with it, I think. It makes it even stronger, simply because Claudius is the husband of his mother; so I think there is a variety of elements but it is primarily the fact that he shouldn'd kill a person. I mean assassinate someone.

67. **INSTR** (to Henry, after a slight pause): You have nothing further?

68. **HENRY:** No.

69. **INSTR:** Are there any other points that need clearing up before we put questions to Albert? Idelle?

70. **IDELLE:** Yes.

71. **INSTR:** Any questions?

72. **IDELLE:** Well - (Pause)

73. **INSTR** (to the group): Any questions you want to ask Albert? (To Jane who has asked for recognition) Jane.

74. **JANE** (to Albert): Would you clarify the relationship between Hamlet and his mother? Was it purely an idealization? Was that the relation? Of respect for an ideal she presented in his mind?

#69 With #69, a new section of the discussion is starting. Dr. A invites the students to ask Albert how he would explain various parts of the play within the framework of his overall interpretation. Dr. A explained to us during the interview that this is a normal part of the usual procedure after a student's general view has become clear to the class.

75. ALBERT: She was to him a mother, and he probably didn't know her too well because he wasn't at home too much. He was away at college, so he may have had some infantile conception about her, as every child has about parents. He idealizes them, but when he comes back and sees what the situation at home really is -- (Pause.)

76. INSTR: Then --?

77. ALBERT: Then he's disillusioned.

78. INSTR: Disillusioned.

79. ALBERT: Yes.

80. INSTR: You agree with Charles on that point?

81. ALBERT: Yes, he is disillusioned.

82. INSTR: Disillusioned. (Pause.) Are you using this disillusionment to explain -- is the disillusionment connected with the moral conflict?

83. ALBERT: It can be connected with it.

84. INSTR: But I'm asking is it?

85. ALBERT: I think there is a relationship because - (Pause.)

86. INSTR: Is there --

87. ALBERT: - because it induces a certain melancholy.

88. INSTR. Melancholy. Does the melancholy have anything to do with Hamlet's delay in the murder of Claudius?

89. ALBERT: Yes. It impaired the power of action.

90. INSTR: It impaired the power of action. What about the moral conflict you described earlier? Is the melancholy a second factor - but the moral conflict the primary factor?

91. ALBERT: I think the moral factor is the more important one, but the other - (Pause.)

92. INSTR: The melancholy.

93. ALBERT: -- but the melancholy adds to it. And his suicidal impulse can be explained by this --

94. INSTR: Uh huh.

95. ALBERT: -- this melancholy. Yes.

96. INSTR: But not by the moral conflict?

97. ALBERT: No.

98. INSTR: The moral conflict can't be the basis for the suicidal impulse -

99. ALBERT: No, it can't.

100. INSTR: - because the suicidal impluse appears before the cause of the moral conflict. In your interpretation, the moral conlict cannot come until after Hamlet has spoken with the Ghost. Is that correct?

101. ALBERT: Yes. But I wanted to say something about Hamlet's decision to put on an antic disposition. This shows a mental instability. A man who decides to feign madness is not, in other words, a stable person, and he probably realizes himself that he will not be able to control himself in all situations. Therefore it is the way out for him.

102. INSTR: Uh huh. A kind of release.

103. ALBERT: Yes. Under the mask of pretending madness, he sometimes can just be mad, really.

104. INSTR: Uh huh. Well, but --

105. ALBERT: And the other reason for putting on an antic disposition is a matter of security. There is an old custom at that time not to kill mad people. And he wouldn't be taken seriously by the others, and the King wouldn't consider him dangerous.

106. INSTR (to Betty who has asked for recognition): Betty.

#100-112 It is obviously difficult for an instructor to make the split second judgments that are necessary about the degree to which a student needs or wants his help in formulating responses to questions or statements he might wish to make.

For example, while Dr. A was listening to the tape recording he confided to us that in his opinion he had not helped Albert but hindered him, at #100, by telling him something that was obvious to him. He voiced the belief that Albert responded to his intended help by making a point that was largely irrelevant -- Albert's point in #101. Later on, Dr. A tells the group he believes this is a side issue (#112), but in #104, he does not (in the recording itself) sound particularly happy.

107. BETTY (to Albert): I don't see where you have any evidence at all, whether in psychology or any place else, for saying that putting on this antic disposition shows a trace of madness. I think the sole reason for putting on the madness is the security you mentioned as the second reason.

108. ALBERT: A sane man doesn't make such a decision. (The group reacts audibly. Betty and other students are speaking at the same time. Words are indistinguishable in the recording.)

109. BETTY: I don't see how --

110. INSTR (to Betty): A man who has complete psychological security, Albert is saying, would not ever come to that plan.

111. BETTY: I disagree. I mean I agree that Hamlet is emotionally unstable but I don't see --

112. INSTR (interrupting): Well, but this is almost a side issue in Albert's view anyway.

113. BETTY: Yes, a side issue.

114. INSTR (to Albert): Isn't that true?

115. ALBERT: Well -- (He is interrupted by Kevin. Many students are speaking at the same time.)

116. KEVIN (interrupting): I think the whole crux of Hamlet's action is the fact that --

117. INSTR (interrupting): Are you offering an alternative to Albert's interpretation or --

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#115 In commenting about #100-112 (see previous comment), Dr. A said during our interview: "I was just beginning to feel uncomfortable without knowing whether I should do anything about it." Albert is clearly not prepared, in #115, to accept Dr. A's view that his (i.e., Albert's) point of #101 and #105 is "almost a side issue...anyway" (#112). Clearly, Dr. A did not want the discussion to move in the direction in which it was moving at #115 and an explosive moment has been reached in the discussion. There is no evidence, however, that the tensions which have been generated are harmful ones by any means. In any case, the impasse gives Kevin a chance to express his point of view.

#116-117 Dr. A, at #117, does not give Kevin a chance to complete his first sentence! He explained to us in the interview why he interrupted Kevin: "Well, I had tried to instill in the members of the group the habit of beginning a comment always by stating the relevance to what has previously been said. And I wanted Kevin to do that here." He went on to explain that the members of the group could perceive, from the way Kevin begins his comments in #116, that he is

118. **KEVIN:** It's not an alternative, but I think it goes just a little bit deeper. You see, I don't believe it is a moral conflict or that he is debating whether it's right or not to kill --

119. **INSTR** (interrupting): So you are disagreeing really on a very basic point? You said it was the same hypothesis but probed more deeply, but it sounds as though - (Kevin shakes his head, indicating assent, as the instructor speaks; finally he interrupts the instructor.)

120. **KEVIN** (interrupting): I think Hamlet knows in his mind that he should kill the King, but the reason he does not do so, the reason he is capable only of rash and impulsive acts, is because he doesn't know in his own mind whether "tis nobler to suffer the slings of fortune, or by opposing to take arms against them" - for this one very good reason -

121. **INSTR** (interrupting): I'm not sure I understand. Would you explain in twentieth-century American English what it is Hamlet doesn't know.

122. **KEVIN:** Well, he doesn't know whether to take positive action against injustice because - And you've got to remember that he's thirty years old and not an immature child - (He is interrupted by George.)

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not speaking to the precise point under discussion in #101-115. Dr. A interrupts and poses the question of #117 in order to ask Kevin to make clear what sort of comment he is about to make.

Dr. A stressed the fact, in his conversations with us, that he expected his students to learn to do this completely for themselves, eventually, without having to be reminded.

#118-122 Kevin no sooner begins than he is interrupted by George at #122. This interruption makes the transcript more difficult to follow than the actual class session was (or even the tape). For Kevin's central point has hardly been stated in a fuzzy, preliminary way in #118, #120, and #122, when an additional point he makes at the end of #122 is challenged by George.

However in those first three utterances, Kevin states what later emerges as the central point in his interpretation--namely, that Hamlet's delay in murdering Claudius stems from a real doubt in Hamlet's mind as to whether there is any point, whether it's worth it, after all, for men to fight injustice. Albert had woven his interpretation around a quite different explanation of Hamlet's delay--namely, a strong doubt as to whether the circumstances in which he found himself could really justify assassination.

We were amazed that Dr. A and his students in this class are so good-natured about being interrupted. This comes partly from the complete "naturalness" of the atmosphere, the freedom and informality. The reader will notice from the transcript that students often ask for (and wait for) recognition; but, normally, when a student is in the middle of a continuing dialogue, he does not wait for recognition from Dr. A.

123. GEORGE (interrupting): Hey, how do you know he was thirty years old?

124. KEVIN: We find that out in Act V.

125. GEORGE: But that's Act V. The "To be or not to be" speech is in the Second or Third Act. (A student makes a humorous remark at this point, indistinguishable in the recording, and the entire group bursts into laughter.)

126. INSTR (to George): Well, George, how much lapse of time is there between Act III and Act V?

127. GEORGE: Well, I don't know. That's why I asked.

128. INSTR: Is it, in your mind, so long that - that your question becomes significant?

129. GEORGE: Well, I don't know. I'm doubtful. That's why I asked.

130. INSTR: You weren't here at our first session when we discussed that point - the lapse of time. (George shakes his head, assenting.) Well, our conclusion was that it must be less than a year between the first and the last Act. So, he's about thirty years old. But this may or may not be important to Kevin's point. It's perfectly possible for a man to be thirty and yet display immature behavior, isn't that right?

131. KEVIN: Yes. And it ties in with what I wanted to say. From the evidence I got about the behavior of his mother - toward what he thinks of his mother - it seems to me that he was a man who had never acted directly on his own, as a boy and as a young man. He never made any direct action and he was completely dominated by his mother. And he was happy, because he enjoyed the feelings of his mother toward him. He got his happiness from - (A long pause.)

132. INSTR: So there is this dependency upon his mother, you're saying.

133. KEVIN: And he cooked up the theory that his mother and his father had an ideal love --

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#123-130 The discussion now goes off on the tangent started by George's question, and by #130 Dr. A attempts to bring it back on the track it was on in #123. However, he is not successful. When we discussed this point with him, he admitted that he had not been able to bring the discussion specifically back to where it has been interrupted in #123. He indicated however that he probably could have done so by asking Kevin at the end of #130 the following question: "Why, as you see it, isn't Hamlet able to take positive action against injustice?" Eventually, Kevin's response to this question does emerge - but not for a while.

134. INSTR: You're saying that, in fact, isn't true.

135. KEVIN: That's right.

136. INSTR: Uh huh. (Turns to Charles.) You see, Charles? We're all thinking along the line you laid out last time - but branching off. I mean your point about idealization. That's the way Albert began, and now that's the way Kevin is going.

137. CHARLES: That's the way they all begin - but they diverge.

138. INSTR: Uh huh.

139. CHARLES: There's really quite a difference. Albert's interpretation -- (Pause.)

140. INSTR: What is your reaction to Albert's interpretation? That it's not really an integrated interpretation? That his points are loosely tied together and not really integrated? Hm? (Charles nods in affirmation.)

#140 In our interview with Dr. A about the questions he raises in #140, we expressed considerable surprise. This portion of our interview is worth quoting:

INTERVIEWER: That comment of yours in #140 surprised us quite a bit. It doesn't seem to be characteristic of your style.

DR. A: Well, yes, it came as a surprise to me, too, when I heard the tape. Actually, you'll find that this is the only occasion during the session when I make a definitely evaluative statement about a student's hypothesis. I don't mean I feel I must never do this - but I've not yet worked long enough with this group to have their confidence - I mean to the point where they would "accept" in more than a superficial way any evaluation I might make.

INTERVIEWER: Well, how do you explain your having made this one, here in #140?

DR. A: Oh. Well, I think it's just a hangover of traditional classroom techniques. That sort of device - where the instructor puts the approved answer into the student's mouth, and then agrees with it - is a standard technique in the typical recitation class.

INTERVIEWER: So you really didn't intend to do it here?

DR. A: That's right.

Having sat in several class sessions taught by Dr. A, we can vouch that his behavior of #140 is thoroughly untypical; indeed, this is why, in the interview quoted above, we told him his comment "surprised us quite a bit."

141. ALBERT (several voices are heard at the same time and only the last word of Albert's speech is distinguishable) - loosely.

142. INSTR (who apparently was speaking simultaneously with #141): - but Kevin, continue.

143. KEVIN: I forgot my point. (Laughter.)

144. INSTR: You were speaking about Hamlet's dependency on his mother and the relationship between his mother and father --

145. KEVIN: Yes. Hamlet believes that anyone who smiles sweetly and is nice, is a good person. And all the world is made up of such people.

146. INSTR: Uh huh.

147. KEVIN: And he has never met anyone to the contrary.

148. INSTR: I see. There's a line in the play where he says that it's important for him to put this down: a man may smile and smile, and still be a villian.

149. KEVIN: The important thing is that - is the fact that he is close to thirty, and that a man who has lived like that all his life does not change overnight. And in addition to that - he is a sensitive, idealistic person - the hatred he feels toward Polonius and the King is not merely because - (George leans over and talks to his neighbor in a loud voice; what he says, however, is not distinguishable in the recording.)

#142-144 In #142, following the brief dialogue, Dr. A asks Kevin to continue. However it appears that Kevin has forgotten his point, and in #144 Dr. A reminds Kevin what his point was. We asked him whether he would have been embarrassed had he not been able to remember Kevin's last point. He replied by saying that had this been the case he would not have been embarrassed at all. He said that in a group that is well oriented in this method, the students feel it as much their responsibility as the instructor does, that the class session should go well. He said that if he had not been able to remember Kevin's last point, he would not have felt in the least embarrassed to ask if anyone else in the group happened to remember it.

We asked him whether in his view this kind of behavior would be different in the more typical traditional type of discussion. He said he thought it would; if the instructor in a traditional type of discussion had to say to the class, "Do you remember Kevin's last point?" the students, he pointed out, would suppose that either their instructor "is up to something sneaky or else that he's on the spot."

150. INSTR: George, could you wait until Kevin has finished.

151. KEVIN: - and the way he feels toward Polonius and the King and his mother is not because they weren't what he thought they were, but because they broke up this dream world. He hated them for it. But when he acts, his situation is forced upon him. When he kills Polonius, he uses-- First of all, he has this frustrated aggression in him, and then Polonius makes a move behind the curtain, and right away Hamlet thinks the man is playing the fool again - all these people are just rotten - and he runs him right through.

152. INSTR: When you say "he thinks," do you --

153. KEVIN: Well, it's a split second decision. But that's what motivates him. That's what rubs him wrong. That's what sets him off. And the reason he doesn't kill Claudius is because Claudius is not playing the fool. Hamlet has no real justification; he has no real hatred toward Claudius; he does not see how revenge can bring him any possible happiness. (Begins to quote:) "Whether tis nobler in the mind -"

154. INSTR (good naturedly): We're back to your quotation again.

155. KEVIN: We have to come back to that. It's not a conflict of ideals. Which will make him happier? - That is, I think, the simplest way to put it.

156. INSTR: Uh huh.

157. FRANK: But - (Pause.)

158. INSTR: Frank.

159. FRANK: But the King smiles at him. (Pause.)

160. INSTR (to Kevin): Frank says, "But the King smiles at him."

#160 Again, as at #142-4, Dr. A's behavior contrasts somewhat with that which would be typical of the instructor-centered class. In #159 Frank addresses a comment to the instructor rather than directly to Kevin. In #160 Dr. A readdresses this question to Kevin. During our interview, he told us he hoped to accomplish two things in doing that. The first was to encourage students to get out of the habit of expecting that he would react to every comment directed to him. And the second is to try to get dialogue going on between students directly. Thus #160 constitutes Dr. A's way of acknowledging Frank's comment without himself engaging in a dialogue with him. (Of course, in this particular case Dr. A's stratagem did not work. In fact, as #161-164 show, he does become engaged in a dialogue with Frank. However, the specific instance shown here is atypical, Dr. A explained.)

161. FRANK: That's right. But Kevin says Claudius isn't important here.

162. INSTR: But Hamlet makes the discovery during the course of the action that not everybody who smiles is good and sweet.

163. FRANK: But Kevin said that Hamlet thought everybody who smiled was all right.

164. INSTR: Right. Then Kevin said that a change had taken place. Kevin believes that during the course of the action of the play, a change in Hamlet's attitude toward the world about him takes place.

165. KEVIN: Yes, he now has a new outlook on life. Before, he believed that everybody was fine and the world was a lovely place to live in. Then he changes. And at the end, he believes things come in the destiny of a man - no matter what a man may do, it makes no difference. Now I think this shows he is again taking the path of least resistance. Throughout the play - before this change of attitude and afterwards - he is an individual who has never been able to assume responsibility and act by himself. (Pause.)

166. INSTR (to the group): That certainly is interesting, isn't it.

167. EVELYN (to Kevin): I'd like to see if I understand what you mean here. Do you mean that Hamlet doesn't kill Claudius because - Well, because he didn't like Claudius from the beginning? In other words, he doesn't discover that Claudius was not living up to his ideals, but he hates all these other people because he thought they were virtuous?

168. KEVIN: I think he hates Claudius very, very intensely, because -- In the beginning of the play, in order to explain his mother's marriage - in order to explain his wife's - his mother's marriage --

169. INSTR (commenting on Kevin's mix-up here between wife and mother): Wow! (Laughter)

170. KEVIN: - Hamlet tries to rationalize his mother's action. That's why he says to the Ghost: "Oh, my prophetic soul." He hates Claudius very much, but still cannot act. And if he would come upon him doing something true to his real character, he probably would run him through without hesitation.

#165-166 By #165, it is clear that a high point in the session has been reached. The transcript does not show as vividly as the tape how high the pitch of excitement in the group is. Dr. A, in #166, turns to the group with a neutral and uninformative (and also unevaluative) comment about Kevin's view of the play. He merely says "That certainly is interesting, isn't it?" And the questions which students wish to ask Kevin start immediately. The instructor does not have to elicit them in the slightest.

171. EVELYN: What do you mean by your term "playing the fool?" You said Polonius was "playing the fool."

172. KEVIN: Being hypocritical, being two-faced, being his own ambitious self -

173. INSTR: Being --

174. EVELYN (interrupting); Well, then, while Claudius was praying, that could have been seen as a moment of hypocrisy.

175. INSTR: But recall that Hamlet at this point sees Claudius not as a hypocrite but as a sincere person whom a moment of piety had struck.

176. BETTY: I don't see how that follows.

177. INSTR: Pardon?

178. BETTY: I don't see how that follows. If he thought that Claudius was a hypocrite then --

179. INSTR: But even --

180. BETTY (interrupting): - He could have killed him right there. Or he could have believed Claudius was sincere.

181. INSTR (to Kevin, who asks for recognition): Kevin.

182. KEVIN: No - Hamlet can only act impulsively when he can forget himself. And the only way he can act impulsively is for somebody to set him off - some outer irritation, some outer stimulant.

183. INSTR: Some immediate stimulant.

184. KEVIN: That's right. Immediate. And he just does not have that at this time. You see - (Kevin is here interrupted by several students who are speaking at the same time; one of them mentions Rosencrantz and Guildenstern.)

185. INSTR (repeating the question that was just asked of Kevin): Does Hamlet have such a stimulant in the case of Rosencrantz and Guildenstern?

186. LEWIS (who speaks without recognition): Yes, I believe so.

187. GEORGE (to Kevin): That's not right. He tells his mother in the Closet Scene he is going to try something like that. At the end of Act III, he even says he is up to some trickery. There is no outer stimulant right there.

188. KEVIN: That's a lot of aggression he's got to get rid of. (A number of students are speaking at the same time.)

189. **INSTR:** Just a minute. Just a minute. (Recognizing George.) George.

190. **GEORGE:** Well, I say that Hamlet plans to kill them! (A number of students are speaking at the same time.)

191. **INSTR:** Would you give George a chance to continue.

192. **GEORGE** (to Kevin): I'd like to ask you one question.

193. **KEVIN:** Well, let me first answer your other point. When Hamlet speaks to Horatio --

194. **MORRIS** (interrupting): Say Dr. A, is this a duet?

195. **INSTR:** Morris wants to know if this is a duet. (Laughter.)

196. **KEVIN:** I just want to make this one point. When Hamlet speaks to Horatio and explains how he got up there on the deck and went into the cabin, he says that it was a rash act and - (hesitates)

197. **INSTR** (helping Kevin): "Indiscretion sometimes serves us well/ When our deep plots do pall - "

198. **KEVIN:** Yes. If it was a planned action to kill Rosencrantz and Guildenstern, then why does he say that?

199. **GEORGE:** "Indiscretion" means that it wasn't right, that's all.

200. **KEVIN:** No, it means a rash, an unplanned action - (Kevin and George are speaking at the same time.)

201 **INSTR** (to George): "But rashness be the better for it, Indiscretion sometimes serves us well -" I'm not quoting accurately, but it's clear he means that a rash act has succeeded where a deep plot has not succeeded. And that's why he says: "There is a divinity that shapes our ends/Roughhew them how we may."

202. **GEORGE:** I think you can build a case on both sides, but that's not the question.

203. **INSTR:** I'm just trying to understand how -- (The instructor and George are speaking at the same time.)

#203 Dr. A, in first listening to the tape with us, became agitated just at this point, and said: "Let me stop the tape to say I was really frustrated here." Our conversation with him is worth reporting verbatim:

INTERVIEWER: Would you say a word or two more about that?

DR. A: You see, I was trying to explain to George that you've got to try to understand the specific event, for the moment, in terms of the total

204. GEORGE (to Kevin): Can I ask you one question? That "to be or not to be" scene. What do you make of it? He doesn't know whether it's right to kill the King, or - ?

205. KEVIN: No, not that. "Whether tis nobler in the mind" - that's my big line. (Laughter.) You see, he doesn't know in his own mind which will bring him more reward, and that's the only thing he can --

206. GEORGE (interrupting): What? What will bring him more reward?

207. KEVIN: "Whether to suffer the sling and arrows of outrageous fortune, or take up arms against a sea of troubles and by opposing end them" --

208. GEORGE (interrupting): What do you mean by "a sea of troubles?"

209. KEVIN: Whether to suffer the injustice of having his father killed by his uncle and having his uncle marry his mother, or whether not to suffer it.

210. GEORGE: You say it's whether to suffer all these things - everything his mother has done and his uncle has done or - what's the alternative you have?

got to try to understand the specific event, for the moment, in terms of the total framework Kevin is presenting. Now, clearly George isn't making this effort. This is a very difficult principle to - or rather habit of mind to build in students. You see, a student who doesn't make this effort - well, first of all, he obstructs the progress of the discussion; and, second, he's not taking the appropriate steps by which to acquire this particular mental habit.

INTERVIEWER: Does George realize that you're disapproving of him here? Or, to state my question more exactly, does he realize the grounds of your disapproval? It's one thing to be corrected by the instructor because your point is unsound, but quite another to be corrected by him because you're going about your task the wrong way - I mean, in this case, pursuing a dialogue, a meeting of minds, in a way that prevents that meeting from occuring.

DR. A: Well, I'm sure he doesn't. That's why it's so crucial for an instructor to have patience. Because it will take time, even with so bright a student as this.

INTERVIEWER: Well, even though you say you felt frustrated at this point, I can't see that your patience has run out - inasmuch as you permit George to continue.

DR. A: Well, remember, I am concerned about Kevin's education too! What's happening at this point is important for Kevin's process of discovery - and George is the central instrument at this particular point.

211. KEVIN: The alternative is to kill the King. (A storm of protest arises against Kevin's interpretation of the "To be or not to be" soliloquy. Everyone appears to be talking at the same time. After the instructor brings the group to some order, he recognizes Morris, who had wanted to speak at #196)

212. MORRIS (to instructor): I wanted to humbly only ask Kevin a question. (Laughter; turning to Kevin) In the light of your interpretation, I wanted to - I'd like you to explain something to me which is not clear.

213. KEVIN: O.K.

#211 In the tape, it sounds as though the building were collapsing here. We asked Dr. A: "Well, who can blame the group for getting so excited? Don't you think Kevin is way off?"

Dr. A replied that Kevin's interpretation of the "To be or not to be" soliloquy was, to say the least, peculiar. The generally accepted literal meaning of the lines is this: Hamlet is contemplating suicide; he asks himself whether it's better to accept and live with the pains of "outrageous fortune," or to take arms against his troubles (Dr. A added: "That's a pretty fantastic metaphor, by the way") and end them by destroying himself. Kevin, however, wants to turn the soliloquy to say explicitly what he believes Hamlet's problem to be: whether a person should accept and live with the horrors of the world (symbolized by Claudius) or whether he should attempt, by taking arms against them (symbolized by the murder of Claudius), to rid the world of them.

We then asked Dr. A why he hadn't "corrected" Kevin, and he said: "What would that serve? He is already getting all the disapproval he can handle, I imagine - I mean, from his classmates. Then, you know, I accept the principle of learning by discovery and all that - So what would be the point? Kevin will be O.K. - he will learn by discovery, all right. But watch this character Morris. He's the one who needs to be watched!"

We should comment here that no one listening to the tape could miss the mockery in Morris' voice when he said, back at #194, "Say, Dr. A, is this a duet?"

#212 Morris is a "character"--nervous, jumpy, and bright. He is also highly talkative, though we found his sentences almost impossible to untangle when we came to prepare the transcript. During our visits to Dr. A's class, Morris approached us after class one day and offered to "help out" in our project! He also volunteered the information that Dr. A. was the "only decent teacher" he had ever had -- the only one "who knows where it's at." But Morris' feelings of admiration for Dr. A certainly mainfested themselves in the class itself in a strange array of behaviors: hidden compliments (as in #234) to be sure, but an often mocking tone (as in #212); and of course his baiting of Dr. A (as in #219 and #223) was obvious to any observer. But the relationship between them seemed not only to be accepted easily by the two of them; it was accepted easily by the rest of the class as well. Other students found Morris -- his rough-and-ready speech, his "toughness," his smart leather clothes -- more attractive than irritating. (For our part, we found him immensely likable but also hard on the nerves.)

214. MORRIS (to Kevin): If accepting that Hamlet idealized his mother and was dependent upon his mother and saw his father replaced by his uncle, and upon suspecting that his uncle murdered his father and then married his mother - how could there be a moral or ethical conflict? Because if that were the case, there would be not ethical conflict in that he should avenge his father.

215. KEVIN: I agree with you. That's not the conflict that I tried to -

216. GEORGE (interrupting): You have more or less -

217. KEVIN (disregarding George's interruption): He knows full well that he has justice on his side, as far as whether he should kill his father. That's not his conflict - (Pause.)

218. INSTR (to Morris): Kevin is saying that justice is on Hamlet's side, but is he going to be any happier if he kills the King?

219. MORRIS: But there is something else. There is the fact that the fellow is a soldier. He was a soldier also. I read that in the introduction to our edition of the play. (Laughter)

#214 In the recording, Morris has a regional or dialectal accent and we asked Dr. A what sort of accent it was. He replied: "Oh, I think one of the accents of New York City." Our conversation then proceeded as follows:

INTERVIEWER: He speaks so jerkily and nervously - I'm not sure I understood his question.

DR. A: I think he is asking something like this: Given all of the circumstances in which Hamlet found himself, there is no reason for him to feel doubt about his right to avenge his father's death; where, then, lies the conflict?

#219 We reproduce here part of our interview with Dr. A:

INTERVIEWER: I don't get it. What's so funny here in #219?

DR. A: Well, Morris is joshing here. There has been so much stress on giving "the evidence" in our previous discussions, Morris is just probably waiting for someone to ask him to give it. His reference to the introduction is just meant as a provocation.

INTERVIEWER: You don't think he is hostile toward you.

DR. A: It's possible. Morris and I have a quite close, father-son type relationship. But I doubt it, actually. We often joke with one another.

220. **INSTR:** Oh?

221. **MORRIS:** The editor says they gave Hamlet a military funeral.

222. **INSTR** (*to Morris*): What exactly is your point? (*Continues in questioning tone:*) As a soldier, he was accustomed to sticking swords through people and therefore shouldn't have hesitated in the case of Claudius? (*Laughter*)

223. **MORRIS:** I certainly think so. (*A number of students are speaking at the same time*.)

224. **INSTR:** Are you trying to understand Hamlet, or are you trying to show the way *you* would have acted in such a situation? (*Laughter*)

225. **MORRIS:** No, I'm trying to say - happiness - if we can say there is a moral conflict or ethical conflict - I don't think the word "ethical" is proper because it is not a question of ethics, because he sees that justice is on his side --

226. **INSTR:** The term "ethical conflict" --

227. **MORRIS** (*interrupting*): Well, I'd like to ask you, Kevin, just one corollary - in that how, by nature - I mean, after your study of Hamlet's character, how will he not be satisfied or not happy by avenging his father's death?

228. **INSTR** (*to Kevin*). Kevin, do you understand the question?

229. **KEVIN:** Yes. From all the evidence I can gather --

230. **INSTR** (*interrupting*): Excuse me, Kevin. Some of us may not have understood Morris' question. Would you restate it?

231. **KEVIN:** Well, Morris would like to know why, from my study of Hamlet's character, why I think he could get no happiness in avenging Claudius' action, Claudius' murder of his father. From what I can find about Gertrude and her character, her actions in the play, it seems to me that Hamlet never had the opportunity for determining whether or not he should perform a certain action. He never received any kind of joy or satisfaction from successfully completing an act which he thought out himself.

#224 We asked Dr. A why he made such a hostile comment -- admitting at the same time that it was obviously a joke. He replied: "Surely the tone of my comment is completely humorous. And as I said, we often joke around this way."

#227 The reader will find this speech as inarticulate as we did, no doubt. Yet it was obviously not unintelligible to Morris' classmates; Kevin, at any rate, does immediately grasp Morris' meaning, restating it without hesitation in #231.

232. INSTR: Uh huh.

233. KEVIN: He just didn't have any practice in making decisions.

234. MORRIS (humorously): He just didn't have a good education. He didn't go to the right college.

235. GEORGE (humorously): That's right!

236. KEVIN: He seems to be completely passive. When his mother asks him to do something, he always says yes. In Act I, Scene II, Hamlet wants to go back to college, and the King makes a long and impassioned speech asking him to stay. Then the Queen makes a speech - only two lines - in which she injects herself on a personal level. She says "Do not go back to Wittenburg lest my prayers fly away," - or something like that - and without hesitation, he says, "I will obey you." And the second time she does the same thing; in the speech with Rosencrantz and Guildenstern, after the King again makes a long and impassioned speech. And there she has less reason to speak than before, but nevertheless she injects herself on a personal level.

237. INSTR: Uh huh.

238. KEVIN: She's not a bad person. She doesn't do anybody any harm. She's just egocentric. (Pause.)

239. INSTR: Nancy, you've been listening to this discussion. What do you --

240. NANCY:(interrupting): Well, a while ago when he was trying to make his point, he called it "ethical", and he objected.

241. INSTR: Who is that? Who is "he"?

242. NANCY: Kevin, there.

243. KEVIN: I objected because Morris meant "ethical" in the sense whether or not -

244. NANCY (interrupting): And you're arguing whether or not it would do Hamlet any good. I think Charles made that point at the last discussion. That he didn't really think killing the King would solve his problem. That's why he asks whether its better to suffer in silence. Right is on my side so far as that goes, but my ideals are shattered. Will that bring back my ideals? Do you see? Will it do me any good to kill the King, really? Will it solve the problem? In the case of Rosen crantz and Guilderstern, in the case of all the foreign combat and everything, it wasn't that question, you see. So, in some ways, you and Charles are both right.

245. CHARLES : But we aren't saying the same thing! Kevin stated a corollary of my interpretation, and then worked back to a different hypothesis altogether.

246. INSTR: Could you show us what the differences are between yours and his, Charles?

247. CHARLES: Well, I made the point that he didn't want to kill the King because that wouldn't set things right. The thing he really wanted was his old world of youth restored. Therefore, my main hypothesis is his idealism. I think I can work out rather scientifically all the action of the play from that. But Kevin's interpretation seems to be - I don't know whether I'm getting it right or not, there are so many points he brought up - that there was indecision on Hamlet's part because - (hesitates) well, I'll leave go the point "Whether tis nobler to suffer in the mind," and so forth - because of a dominating tendency in his mother, and he had never done anything on his own, on the spur of the moment. And I think that point can be thoroughly disapproved.

248. INSTR (puzzled, beginning to ask Charles a question): He had never --

249. CHARLES (interrupting): Had never commited an impulsive action, and it was an impulsive action -- (a number of students are speaking at the same time.)

250. KEVIN: Hey, Chuck, I never said -- (Kevin's voice is lost in the hubub. The instructor's voice is heard joining the group; the first part of his sentence is indistinguishable in the recording; Nancy's voice is heard at the same time.)

251. INSTR: - He explains that on the basis of an impulsive action, but he's saying Hamlet never a major action that demands a thought-out decision. (To Kevin) That was your point, wasn't it? (Kevin assents. Instructor turns to Nancy.) What were you saying, Nancy?

252. NANCY: When he does stop to think it out, he never gets anywhere - when it comes down to Claudius. He could think it out when it came to Rosencrantz and Guildenstern. He could think it out because he could explain the situation in the one case. He didn't apply, you see, except personally, this self-protection business that - he was still toying with the situation. (A number of students ask for recognition and some begin to speak. After a moment, the instructor brings the group to order and gives the floor to Olive.)

253. INSTR: Now. let's give Olive a chance to talk.

254. OLIVE: Do you think --

255. INSTR (interrupting): Are you asking me or are you asking --

256. OLIVE: No. Kevin. Now this impulse, right after he has seen the Ghost -- why couldn't he have killed the King after that, rather than waiting around? Certainly I think he had enough outside stimulus to kill the King.

257. KEVIN: Why didn't he kill the King when he had the most wonderful opportunity in the world - when he catches him praying?

258. OLIVE: Well, you see -- (Olive, Kevin, and several other students are speaking at the same time. Their words are indistinguishable. Finally, Olive's voice alone is clear.)

259. OLIVE: -- he could have killed him on impulse then.

261. KEVIN: He has got himself riled up. It was all anger. It isn't that he's an idealist. (Several students are speaking together.)

262. QUENTIN (who has not yet spoken in this session): No, that's not the conflict at all. Not his idealism.

263. KEVIN: I know --

264. QUENTIN: He does not want to kill the King at all. He does not want to kill the King. (Several students are speaking at the same time.)

265. KEVIN: The world was a very fine place and now the world is no longer a very fine place. I don't see where idealism fits in.

266. NANCY: His idealism has been shattered. That's why he doesn't want to kill the King. (Practically everyone is speaking at once.)

267. INSTR: Now wait a minute. Now wait a minute.

268. GEORGE: I want to ask Charles to give me evidence of Hamlet's idealism. (Pause.)

269. INSTR (to Charles): Charles?

270. CHARLES: All right. Well, I think there is plenty of evidence. On page 692 - (Members of the class are looking up the reference. George takes advantage of the momentary lull:)

271. GEORGE: On this point of Hamlet's never having to act on his own, he was away at college, so you might be able to assume that he acted there once in a while on his own.

272. CHARLES (ignoring George's comment): There is evidence for idealism in two different elements in the play. There is evidence in the thought of Hamlet as it comes out in his soliloquies, and there is also evidence in his actual behavior toward other characters.

#271 In reviewing the transcript with Dr. A, asking his reaction to various points, we stopped at #271 and our conversation went as follows:

273. **GEORGE:** I'd like to see it in his soliloquies. I don't see--

274. **INSTR** (interrupting George, somewhat severely): O.K. Give him a chance to reply!

274. **CHARLES:** On page 692, Hamlet says, "I have of late, but wherefore I know not, lost all my mirth, foregone all custom of exercise," etc., etc.,

276. **INSTR:** Well, what does that show?

277. **CHARLES:** That reveals how his previous view of the world has disintegrated.

278. **INSTR:** Uh huh.

279. **CHARLES:** And then his relations toward Horatio and toward Laertes. He overidealizes them tremendously.

280. **GEORGE:** How do you mean, he --

281. **CHARLES** (interrupting): He always conceives of Laertes as a "noble youth." You see, I started out with the notion that he overidealized relations between his mother and his father. He did more. He overidealized the world. He overidealized his acquaintances. I think there is proof that he overidealized his acquaintances.

INTERVIEWER: I think that's awfully revealing, don't you?

DR. A: Yes, I do. It's revealing of college students in general - the quest for self-sufficiency and the breaking down of dependency on parents, and all that. And it's also revealing of George who is a more aggressive kid than the others.

INTERVIEWER: That's quite obvious from the recording!

DR. A: No, but I mean not just in his classroom behavior. George would be the very one, I mean, to imagine Hamlet - or anyone - acting independently, especially away from home and away from parental influence. Obviously George has been wanting to express this idea since way back - well perhaps as far back as #123 when George opposes Kevin. Of course, it's hard to say when an idea first comes into one's mind. The stimulus might have been something Kevin said more recently - say at #231. Maybe that's what George is reacting to. It's hard to know.

But what is interesting to me is that George is an aggressive kid and is projecting onto Hamlet some of his own reactions to the world. He wants to think of Hamlet as a person capable of acting on his own, at least when he's away from his parents and at college.

INTERVIEWER: Is there in fact any evidence in the play as to how Hamlet did act when he was at Wittenburg?

DR. A: I don't think so. Except the general evidence Charles quotes in the next passages here in the transcript.

282. INSTR: What about Rosencrantz and Guildenstern?

283. CHARLES: Rosencrantz, Guildenstern, Horatio, Laertes - all of them.

284. INSTR: Uh huh.

285. CHARLES: He's been entranced with both Rosencrantz and Guildenstern since early youth. It says that in the play.

286. INSTR: Uh huh. (Henry asks for recognition.) Henry.

287. HENRY: I'd like to make one more point about his idealism.

288. INSTR: O.K.

289. HENRY: It's about Ophelia. I agree that Hamlet is idealistic -- I won't say anything further about that now because I've got practically an entirely different idea of the whole play which might come out --

290. INSTR: Would you like to present it in class during the next session?

291. hENRY: O.K. But what I want to say now -- a good example to show the idealism of Hamlet is his relationship with Ophelia. Ophelia, in my interpretation, and I think in practically anybody's interpretation, was above-board in practically the whole play - except that her father asked her to help him and she was a conspirator just because she had Hamlet's interest at heart. She wanted to know what was wrong with the fellow, and so forth. Anyway, Hamlet loved Ophelia, and then for practically no reason at all, he breaks off this terrific relation with Ophelia and calls her a whore and makes all those remarks to her to show that his whole concept about everybody, so far as he's concerned, has gone down about six notches, for no reason.

292. QUENTIN: He still loved her.

293. HENRY (ignoring Quentin's comments): To me, it's a general indication of depression.

294. RALPH (who speaks in this session for the first time; interrupting): He goes from idealism to - (he searches for the word) - materialism.

295. INSTR (to Ralph): I don't think "materialism" is the word you want. You mean "oversuspicion"? That is, suspecting people of motives they don't have, of base motives that don't exist?

296. QUENTIN: I can't see that. He still loves Ophelia.

297. FRANK (agreeing with Quentin): Because in the last act, when Laertes - where Hamlet was mad because Laertes was acting up like that, he says "Well, what about my love for her -" (Several students are speaking at the same time.)

298. INSTR: Uh huh. (to Charles) What do you do with the fifth act, Charles? What do you do with Hamlet in the fifth act?

299. CHARLES: Well, a change has taken place.

300. INSTR: In what direction?

301. CHARLES: I would say Hamlet is coming back more towards normal.

302. INSTR (to Charles): And how would you specifically characterize the change in his attitude towards Ophelia? (As Charles attempts to answer this question, Frank and George also begin to speak. George's voice is heard quoting something from the text about Hamlet's lying between a maid's legs.)

303. INSTR: George, I don't think the microphones picked up your comment. (Laughter)

304. GEORGE: That's what it says in the book. (More laughter) There is a point I would like to make about Ophelia. Polonius had given Ophelia instructions to reject Hamlet, and Hamlet knows that the King has seduced his mother. Polonius wants to solidify himself with the King, so he tells Ophelia not to give her favors to Hamlet. Now Hamlet in that case can infer that she is giving them to the King. And that's why he calls Polonius a "fishmonger" and tells her to go to a nunnery. (George quotes from the text:) "Conception is a blessing, but not as your daughter may conceive." He thinks she is going to conceive by the King. That's why he calls Polonius a "fishmonger."

305. INSTR: So you're presenting more evidence for the point of view that Hamlet suspects base motives where base motives --

306. GEORGE (interrupting): No, I'm really trying to say -- You see, Ophelia is rejecting him and therefore he has grounds for being suspicious. I mean he was justifiably suspicious. (Henry and Nancy are speaking at the same time.)

307. HENRY: That's just the point. He thinks that everything is a cause.

308. GEORGE: The fact that the King has seduced his mother naturally makes him suspect that the King is also having an affair with Ophelia. How should Hamlet know that her father has given her instructions not to see him? (Many students are commenting at the same time, resisting George's point.) You've got to take into account that her father was a big shot in the government.

(The bell rings)

309. INSTR: Oh, oh. Time's up. (Many students speaking simultaneously.)

Many separate conversations broke out when the instructor said, "Oh, oh. Time's up." Because these took place simultaneously and because chairs were being moved back as students rose from the table, it was not possible to get any of this final give-and-take off of the tape. A few details, however, can be supplied from our notes.

Dr. A turned to Henry, asking him if he might wish to start the discussion at the next class session; and Henry confirmed his assent of #291. "Maybe you can start with a kind of summary of what Charles, Albert, and Kevin have said," Dr. A suggested; "it might be good, if you have time, to get together with them in advance and go over their points of view with them, so you represent them fairly in your summary." Henry nodded and said he would; and walked over to where Kevin was surrounded by a group of students angrily arguing with him. Morris, jangling his key chain, half-seriously half-laughingly began to complain to Dr. Abbot that he was not getting a chance to express his views. David (who had not said a word since early in the session, when Dr. A seemed to turn him off, but had sat wide-eyed during the entire hour, listening intently) moved over to a corner where Evelyn was pointing something out, in the text, to Charles.

Many of the students seemed reluctant to break off their discussion. But other students were already beginning to enter the room for the next class scheduled there, and Dr. Abbot's students slowly moved toward the door.

APPENDIX C

FOUR INNOVATIVE CURRICULAR MODELS

As the reader will discover if he persists through Appendix E (for confusions in the use of the word "model" are discussed there), it is possible to depict a curricular model on the level of scientific and philosophic principles, as in chapters 3, 4, and 5 of this report, or to depict concrete curricular designs, i.e., to confine oneself to problems within the realm of curricular engineering. One of the theses of the present report is that curriculum builders have confined themselves to the level of curriculum engineering, and that this is not where our basic problems lie. Nevertheless, a concrete curricular design is, from the practitioner's point of view, the final stage of the curriculum-building process. We are therefore devoting this lengthy appendix to expositions of four curriculum models that illustrate a variety of innovative features.

The first is the curricular pattern for College M, a community-oriented cluster college designed to be established on the large urban campus. The College M curriculum was constructed by the writer (an earlier version of the design appeared in the December, 1967, issue of Educational Record) and, so far as he knows, it does not exist, as yet, on any campus.

A second pattern is the curricular design for College J, a two-year community college. College J, like College M, is an urban institution; and in some ways the two designs are similar. But even though College M is an experimental college, College J is more radical in conception and perhaps more appropriate to the technetronic age.

Model P and Model Z were inspired by the comments of two professors--one at the University of Washington and the other at SUNY, Stony Brook--who are not professional curriculum builders but have had considerable experience with interdisciplinary curricular efforts. Model P is a B.A. program in "Future Studies" and Model Z is a B.A. upper division (i.e. Senior College) program in Humanistic Studies. In both cases, and especially in the case of Model P, I have modified the original idea in certain ways; and in the case of Model P, it has not only been modified but also considerably elaborated in its presentation here.

These models illustrate a wide variety of innovative features in curriculum design; yet none of them is simply a helter-skelter combination of new ideas or merely a "laundry-list" of innovative curricular features; each is a total design, planned in terms of a working system.

COLLEGE M: A COMMUNITY-CENTERED CLUSTER COLLEGE

The curriculum at College M is based on the motto: "Freedom to Teach and Freedom to Learn." College M is designed as a cluster college for a large, urban university. It runs year-round, appealing to those high school graduates who would like to (a) get their undergraduate degree after three full years of study (twelve quarters), (b) take more responsibility for their own education than is possible in standard programs, (c) work in an urban-oriented and intercultural curriculum, and (d) delay professional training or intensive specialization (such as is now normally available during the undergraduate years) until they have completed their B.A. degree.

At College M, the three years of study are called the Freshman Year, and Middle Year, and the Senior Year. The Freshman and Middle Years constitute the Lower Division. In the Lower Division, teaching/learning groups are organized differently from the way they are organized in the Senior Year.

There are four departments at College M:

-the department of humanistic studies (which includes the arts--fine, applied, and recreative--but does not include the study of language or linguistics);

-the department of natural sciences;

-the department of social and behavioral sciences; and

-the department of language and mathematics.

Walls between the departments are not very strong, and faculty members may hold appointments in more than one department.

THE LOWER DIVISION: ORGANIZATION OF TEACHING/LEARNING GROUPS

During the Freshman and Middle Years, every student in College M is a member of a Primary Group consisting of 75 students and 5 staff members. Four of the staff members are on College M's faculty and participate in the Primary Group's teaching/learning sessions. The fifth staff member is not a member of the College faculty but a College officer called Primary Group Coordinator. The responsibilities of these five staff members will be described presently.

The Scheduling System. Although the year is divided into four quarters, the basic calendar unit in the Lower Division is the term. A term extends over a two-quarter period; there are thus two terms each year for Lower Division students at College M.

Instruction in the Lower Division is given through courses. Each student registers for four courses each term, each carrying eight quarter-hours of credit. A "reduced" program (or part-time study) is not possible in College M. In any given term, all the students in a given Primary Group normally receive all of their formal instruction from the four faculty members who are members of their Group. Likewise, the four faculty members in a given staff team carry instructional responsibilities, during any term, only for the students who are members of their Group that term. The Group Coordinator, too (who, as we have said, is not a faculty member and does not have instructional responsibilities) works with only one Primary Group in any given term and is, of course, a member of that Group's staff team. A staff team need not stay together as a team for more than one term, and typically does not stay together as a team for more than two terms.

The 75 students in the Primary Group sometimes meet together as a full group--in plenary session, as it were--but more typically the student group is divided into three sub-groups of 25 students each. However, the number and constituency of sub-groups is flexible and may change from hour to hour and from day to day, depending upon the particular needs that must be met; sub-groups may consist of as few as two or three students working jointly on a problem or project.

The student group of 75 and its staff team may remain together, constituting a Primary Group, for two terms (that is, a full year) if they wish; if, however, they wish to split after one term together, they may do so. Thus, each Primary Group decides about a month before the end of term 1 or term 3 whether they will stay together or split for term 2 or term 4. At the end of term 2, however, there is no choice. The Freshman Year staff teams and student groups are entirely reconstituted as they move into the Middle Year.

For bookkeeping purposes, the faculty members in each staff team officially have a 12-hour teaching schedule per week: That is, they are responsible for giving four hours of instruction to three classes of 25 students each. The actual scheduling of classes and other activities, week by week and day by day, as already pointed out, takes place by agreement among the members of each Primary Group or of specific sub-groups. Thus, the number of hours of "class" that any particular student may have with each member of the faculty team in his Primary Group varies considerably. Likewise, the number of contact hours a faculty member may have with the Primary Group and its sub-groups, in any given week, varies from faculty member to faculty member, and from week to week, for the same faculty member.

The pattern of faculty-student contacts is not--indeed, cannot be--uniform from one faculty member to another; a great deal depends upon individual faculty members' teaching styles. At the same time, every faculty team tries to be aware what the various patterns of its own members are. The Coordinator works with the faculty members on this matter, and together they try to prevent a pattern from developing in which one faculty member devotes an excessive amount of time to group activities while another might be devoting an insufficient amount of time. The terms "excessive" and "insufficient" are not defined rigidly by the staff team but are based on the dynamic flow of student needs and educational requirements. Since these vary during the course of a term, faculty-student contact also varies. During the first several weeks of the term, it may follow a quite different pattern than it does during the middle weeks of the term. For certain periods of time, students would be expected to work independently of their faculty teams, retaining contact only with the Group Coordinator. Thus, no set rules can be made, each case depending upon individual projects and the students' readiness for independent work. The basic principle is that as a student learns how to "learn," he becomes progressively less dependent on faculty members to "teach" him.

The scheduling of group and sub-group meetings thus remains entirely in the hands of the members of the Primary Group and that schedule varies as needs vary. A complete day-by-day schedule is kept, for all sub-groups in each Primary Group, in the Group Coordinator's office. One of his major responsibilities, indeed, is to know what sub-groups are scheduled to meet where and when, and to be able to direct members of the Group who have misunderstood, become confused, or simply been away. Students and faculty in the Primary Group, therefore, when they wish to ascertain anything about schedule or logistics for any sub-group in the Primary Group, turn to the Group Coordinator for their information. This is one of the Coordinator's duties, although as we shall see presently, it is by no means the most important one.

The Staff Team. Each of the Four departments of College M is represented on each staff team; that is, one faculty member on each team represents each of the departments. Thus, every faculty member working with Lower Division students in a given term enters into a team relationship with three faculty colleagues who come from the other three departments of College M.

But it is important to make clear that no faculty member works continuously, term after term, with Lower Division students. Typically he works with Lower Division students for two years out of every four years of service.

The four-year cycle for faculty assignments works in the following way for every faculty member:

-First year: Freshman Year Primary Group;
-Second year: Middle Year Primary Group;
-Third year: Senior Year students;
-Fourth year: non-teaching assignment (study, research, writing, curriculum designing, preparation of teaching materials, etc.)

The fourth year of the four-year cycle is an important feature. It is called the Study Year; during that year the faculty member is paid his full salary. Teams of faculty working together on curricular and other planning or research projects can arrange to have their Study Year at the same time.

The Study Year is not used for non-college projects. It is a year at full pay and the faculty member is on a college assignment. Faculty members in College M also participate in the sabbatical leave plan at the university of which College M is a part. They may also periodically take leaves without pay for off-campus or other non-college projects; the four-year cycle outlined above may be interrupted at any point to allow for sabbatical leave or leave without pay.

The Primary Group Coordinator. This post exists at College M as it is required by the College's peculiar form of organization. The Primary Group Coordinator is an administrative rather than instructional officer. He is the "leg-man" for the staff team, and is responsible for all administrative and record-keeping matters for the Primary Group to which he belongs in a given term. He operates as a "trouble shooter," facilitating communication between students and faculty in the Primary Group, and he serves as the Group's liaison with the student personnel services. As already noted, the Coordinator is the major clearing house for information regarding the movements of the Group and its various sub-groups. His office is the message center for members of the Group; he is called upon by both faculty and students to give morale, and occasionally he may be instrumental in meeting emotional emergencies.

The Primary Group Coordinator is probably mature in years and experience, holds a college degree or the equivalent, and has the kind of personality to help alleviate the immediate problems presented to him by a nervous student or an anxious faculty member. The Primary Group Coordinator is not someone aspiring to become a faculty member; the Coordinator's post is a career post in its own right. As for salary, it would be about the same as for the lower levels of administrative officers.

Women whose children arein college or beyond might well be attracted to the post of Primary Group Coordinator. No specific training is needed and office machine skills are not necessary. For very large departments on many university campuses, the departmental secretary carries out many of the duties we have outlined here for the Primary Group Coordinator. Many mature and intelligent women who hold these secretarial posts perform this particular syndrome of duties with great insight. College M simply recognizes and attempts to formalize a complex job that is already performed in many departmental offices throughout the country.

PRINCIPLES OF CURRICULAR ORGANIZATION

The major organizing principle in the curriculum is the clear progression in the sort of activity the student is expected to carry on as he moves from the Freshman to the Senior Year. The Freshman Year emphasizes direct, concrete, experiential materials; by the end of the Senior Year, the student has moved to the formulation of general principles. This does not mean that in College M the freshmen would never be expected to learn by rote someone else's formulation of principles (as he normally does in the standard current model, in introductory "principles" courses in the various disciplines); where this does happen, however, it is simply a case of asking the student to learn which generalizations have been formulated by particular scientists or philosophers whose works are being studied as part of a freshman year project.

The second principle of curriculum organization is the intimate relationship that is established between the classroom and the outside world. College M has a curriculum that is "community oriented." But College M does not limit its community to the city surrounding the campus. The national and international communities are just as relevant to the student's life; thus, the curriculum, according to this principle, is not only city-oriented, but also nation-oriented, and world-oriented. The curriculum planners in College M thus focus their attention on international and intercultural problems, on national affairs, and on urban studies.

As the curriculum is actually organized at College M, the emphasis in the Freshman Year is on the city (that is, the community immediately surrounding the campus) and in the Middle Year, the emphasis is on the national and world communities, with the focus in the Senior Year in one of these three large areas, depending upon the student's interests.

A corollary of this principle of curriculum organization is that participation in community projects and in experience abroad is actually part and parcel of normal course work; it is by no means merely an extracurricular "offering" which students may take or leave.

Finally, the curriculum is so organized that no curricular options in the way of "specialization" are available to students during the Freshman and Middle Years. Moreover, no curricular options at any time are designed to train for specific jobs or for specific professional careers.

The specific ways in which these principles are implemented in the Lower Division will be explained presently.

The Senior Year. The Senior Year is a highly individual affair. During the four quarters of the Senior Year, programs are arranged for students through one of the four departments. At the opening of the Senior Year, each student must select the department in which he wishes to work. One of the quarters might be spent in a work-study relationship--an actual job under the supervision of the department; one or two of the quarters of the Senior Year might be spent studying in another culture or sub-culture. Working under the guidance of a faculty team from the department of his choice, the senior reads and experiences what seems likely to result in his becoming a better learner.

During the Senior Year, as in previous years, the student is officially registered for four courses, each carrying four quarter-hours of credit. In the Senior Year, however, there is no necessary correlation between a course for which the student is registered and the actual meetings of classes or conferences with the instructors. A faculty committee in the department of the student's choice works together with the student to determine which actual class sessions he ought to attend.

At the close of the Senior Year, during the final quarter (the summer quarter), each student takes a comprehensive examination in which he demonstrates to his committee how well he has mastered the art of learning. The comprehensive examination actually takes place throughout the quarter and uses seminar sessions and public discussions rather than written tests as its main evaluation instruments. As part of the examination, each senior gives one or more public lectures on a topic of interest to the community, or presents a performance or exhibit in the arts or sciences designed for students, faculty, and college community.

Certification and Grading. No grades are given at College M. This practice applies both to individual courses and to the senior comprehensive examination.

At the end of the Senior Year, students who have completed the senior comprehensive examination are normally awarded the undergraduate degree. If the question arises (and it may) as to whether a student should be given the degree, a student-faculty committee will make the decision. Students from whom the degree is withheld through such committee action, or students who choose not to receive the degree, are awarded a certificate indicating that they have done twelve quarters of work at College M.

College M students who transfer to other undergraduate colleges on the campus (the reader is reminded that College M is a "cluster" college at an urban university) are normally given full credit (ungraded) for courses taken at M.

Graduates of College M who wish to enter a graduate school encounter no greater problem than other candidates from liberal arts colleges, provided they select graduate schools which will consent to use criteria for selection that depend on data other than college grades.

In any case, College M takes seriously its function to give the best undergraduate education possible, designed for training leaders in our society, irrespective of entrance requirements to specialized institutions. College M does not see itself--as many prep schools and many community colleges do--as a preparatory institution; hence College M does not feel its curricula must "transfer" easily to other institutions.

THE LEARNING CENTER AT COLLEGE M

All of the courses in the curriculum proper--as the reader will presently discover--deal with materials for which inquiry is the appropriate means of investigation. However, there are many kinds of knowledge for which inquiry is not an appropriate means of investigation. The student is expected to acquire this kind of knowledge, when he needs it, through the Learning Center, making arrangements with Learning Center personnel to use those facilities at the student's convenience on an individual basis.

For example, in conjunction with work in linguistics (one of the four courses students take during the Freshman and Middle Years would be given by a member of the Language Department), or in conjunction with work in intercultural study given through the Social Science Department, students or faculty might wish to acquire or perfect skills in a particular foreign language. (It should be noted that we are not speaking here about knowledge of the structure of language in general, or of a particular language, nor about inquiries into contrastive cultural phenomena exhibited by speakers of these languages--for such topics would be handled appropriately in the regular curriculum, subject as they are to "inquiry"--but about the perfection of language skills.) For the acquisition of knowledge for which inquiry is not the appropriate means, the Learning Center is staffed by technicians and instructional assistants. Such knowledge can be systematically and efficiently acquired whenever the need arises and at the individual student's and faculty member's own pace, but it is not a part of the program of studies taught by the regular faculty.

Thus, for the acquisition of certain facts and general principles, and for the acquisition of many important skills--for example, learning to type or to speak Russian, to solve certain problems in statistics or to play piano--students in College M have available to them the Learning Center, where with the help of Learning Center personnel, they may select appropriate programs to teach them whatever they must acquire. Faculty are considered too valuable a human resource to be asked to spend time helping students acquire knowledge which can as effectively be acquired through non-human media with the help of non-faculty Learning Center personnel. Faculty are used for courses and individual conferences designed to do tasks which cannot be done by non-human media--the printing press, TV and film, tape recorder, or the computer.

PROGRAM UNITY AND VARIETY: THE FIRST TWO YEARS

During the Freshman and Middle Years, each student is registered for four courses concurrently, one from each of the four departments represented by the faculty members on the staff team of the primary group. Certain principles help to give the program unity and certain other organizational principles help to give the four-course program a certain degree of variety during each term of the freshman and middle years.

When the curriculum was conceived, four separate dimensions were built into it. Two of these dimensions are methodological and two are linked to subject matter; that is, two of the dimensions concern the form of inquiry and two concern the content of inquiry. Further, two of the four dimensions contribute to program unity since they supply common frameworks for all courses, while two of the dimensions contribute to program variety in that they supply the differentiating frameworks for the individual courses. The relationships between and among these four dimensions are shown in Table 1.

The First Dimension. The first dimension is methodological and contributes to program unity. It is, indeed, the general methodological frame for the Freshman and Middle Years and may be stated in the form of the following question: What is knowledge and how may it best serve mankind? The question can be restated in three parts to make clearer its function as a general framwork for the entire program--that is, as determining or coloring the form of all inquiries carried on in every course:

1. What are the intellectual and material tools by which new facts, principles, concepts, systems, etc., are discovered? What does it mean to discover new knowledge?

2. What are the intellectual and material tools by which this new knowledge is assimilated with the old knowledge? That is, how is the total body of knowledge reshaped to accommodate the new discoveries?

APPENDIX C

TABLE 1

THE FORM-CONTENT AND UNITY-VARIETY RELATIONSHIPS IN THE FRESHMAN YEAR AND MIDDLE YEAR PROGRAM

	METHOD Form of the Inquiry	SUBJECT MATTER Content of the Inquiry
UNITY (The two common frameworks)	**First Dimension** THE OVERALL METHODOLOGICAL THEME: KNOWLEDGE (How is new knowledge discovered and assimilated?)	**Second Dimension** THE OVERALL SUBJECT-MATTER THEME: COMMUNITY (The City, Nation, and the International Community)
VARIETY (The two differentiating frameworks)	**Third Dimension** MULTIDISCIPLINARY APPROACH (Four faculty members each term represent four major disciplines.)	**Fourth Dimension** THE "IMMEDIATE TOPIC" (A different topic is set for each Primary Group.)

3. How are the preceding two questions relevant to the individual student, to the sub-cultures of which he is a member, and to mankind in general?

These questions have not been expressed here in appropriate logical, pedagogical, and psychological terms, but when they are so expressed, they constitute the overall methodological frame for all studies carried on in the Primary Groups dueing the Freshman and Middle Years.

Every student is asked to keep a special journal carrying entries about this overarching methodological problem. (He is asked to keep other journals dealing with other problems of identity and of intimacy, for example--but the journal in question is devoted to this specific, overarching, methodological question.) It is not expected that he will make daily entries, but he is expected to make entries as these problems become clearer to him and as he is able to formulate questions, confusions, refinements, and changes of opinion about various issues. In a sense, this inquiry is central to the entire enterprise since the primary goal of College M is for students to learn how to learn. The inquiry that organizes the work of the Lower Division, therefore, focuses on the nature of knowledge, how it is acquired and how it serves human beings.

The Second Dimension. The second framework that contributes to unity in the program concerns not method, i.e., the form of the inquiry, but its content. A single subject matter theme is set for all primary groups each year. In the Freshman Year the theme is, "The City: In History and in the Future." In the Middle Year the theme is, "America, the West and the World." The approach to this subject-matter theme is multidisciplinary; each member of every faculty team represents a different discipline. Thus the city is not seen merely from a sociological or political point of view, which is the characteristic bias of most programs in urban studies; nor is it seen primarily as an economic entity, but it is viewed from other important points of view as well: in its medical, cultural, legal, educational, military, technological, esthetic, transportational, linguistic, marital, etc., aspects. Similarly, the work of the Middle Year is not confined to an examination of nations as political entities--the characteristic bias of programs in international relations--but focuses on intercultural studies, in the widest sense, as well as on international studies.

These two dimensions are unifying frameworks in the curriculum, the one relating to method and the second relating to content. The third and fourth frameworks introduce differentiation.

The Third Dimension. In the third dimension, every course a student takes in a given term is differentiated from every other course because the faculty member responsible for each one has his own disciplinary orientation. It is important to note that in College M, even though the curricular thrust is multidisciplinary, curriculum structure takes a realistic point of view about the training of faculty, assuming that since faculty have come to the College through traditional Ph.D. programs, they are, more or less, discipline-oriented in their points of view; still, they are at the same time able and willing to learn from their colleagues and, in the last analysis, place greater value on the depth of a multiphasic approach than on blind loyalty to one discipline. The disciplinary orientation of each of the courses is not to be taken merely as a second-best solution to the problem of curriculum organization; it is actually regarded as a good in itself and plays an important role in the framework of a multidisciplinary thrust.

The Fourth Dimension. On the fourth dimension, the work of every Primary Group is individualized. No two Primary Groups deal in any given term with precisely the same topic or series of topics. The fourth dimension is thus another differentiating framework, and like the second, it focuses on course content. The label of the fourth dimension is simply "The Immediate Topic."

The immediate topic, or the particular sequence of topics, set for the term is decided in advance by each faculty team; and, as a rule, it is announced before the choice of Primary Groups is made by students. Thus, students are led to seek membership in one or another of the Primary Groups partly through a matching of interests.

Immediate topics may differ considerably in their very nature. Some topics are, in fact, fields for systematic investigation while others are simply points of departure for an exploration that often ends up somewhere else in a quite unanticipated way. An example of the first type is a systematic exploration of several crisis in western civilization. An example of the second type is a problem such as drug use among teenagers in the United States; that topic might simply serve as a point of departure for analysis of larger aspects of teenage culture in urban America or for an inquiry into generational differences in general, illustrated by both contemporary and historical cultures. In the case of the second example, the final inquiry would thus, in all probability, describe and explore a topic which would carry a label other than "the use of drugs among teenagers."

While the topics of the Freshman Year and the Middle Year are focused on different entities, as specified by the second dimension, it is possible for a Freshman Year group and a Middle Year group to begin with the same initial interests, which would be directed along one route in the Freshman Year and along another in the Middle Year. For example, a freshman group interested in the contemporary roles of religious institutions can decide to investigate the contributions of religious leaders to civil rights movements in their own city. A Middle Year group, however, similarly interested, may decide to explore the ecumenical movement as part of a larger study of multi-national or intercultural institutions.

In general, the larger frameworks--i.e., dimensions 1, 2, and 3--are to be put at the service of the immediate interests of a group, helping to sharpen and focus those interests rather than to block them. For example, imagine that in the middle of term four, a particular group discovers that even though instructors have repeatedly referred to this "system" or that--ecological systems, economic systems, language systems, computer systems--a number of students in the group find they really do not understand what a system is and wish to explore the "systems" approach. Discussing this with their colleagues, they might decide to make that the group's next immediate topic. In planning the actual exploration (the field experiences, the reading materials, non-academic guest discussion participants, student projects, etc.), the group would then try to tie this immediate question into the larger subject-matter framwork set for the whole year, with an emphasis therefore on the national and international aspects of the specific problems that are explored.

A word might be said about the problems approach in relation to the fourth dimension. It would be an error to say that College M takes the problems approach as a central principle in its curriculum. Courses which take the problems approach, as the term is generally understood today, focus on some societal ill--unemployment, poverty, overpopulation, vice, juvenile delinquency, drug use, substandard housing, etc.--and they attempt to analyze the nature of the problem and to seek directions for possible solution.

Characteristically, however, the problem is formulated before the course actually starts. Furthermore, it often happens that the problem is formulated in terms of middle class biases.

Since College M is attempting to help the student free his mind from these very biases, the typical problems approach may turn out in the end to do harm in certain ways--that is, to increase the student's ethnocentrism, if he is a typical middle class student, rather than to free him of it. For this reason, the curriculum at College M does not characterize itself as a problems approach curriculum, even though there are a number of resemblances between the two.

VARIETY IN TEACHING STYLES AMONG COLLEGE M FACULTY

College M follows the view that there is no single "best" way of organizing a group of learning experiences. Hence faculty teams are not made to feel that their procedures must necessarily be consistent with previous procedures that they or other teams have used. There may, therefore, be considerable variations in class procedure from one Primary Group to another, depending to a large extent on the abilities, desires and predilections of the faculty team as well as those of the student group.

For example, in some Primary Groups, the decision might be to use a common set of readings and community experiences, each faculty member taking responsibility, in the course "belonging" to him, for exploring a different aspect of these common materials. A group may, for example, decide on an immediate topic that focuses on rational and irrational processes in man, their kinds and uses, and the sorts of products that result from each, as well as their relationships to this or that kind of social organization. Common readings and other common experiences might be set for the group as a whole, each instructor then exploring the particular problems that are susceptible of exploration through the theoretical framework and the tools of his particular discipline. Other Primary Groups, however, might decide to do it quite differently. For example, the readings and activities suggested for each of the separate courses may in fact be quite different even though all of the courses address themselves to the same general immediate topic.

In the first case, the work of the team is, in some sense, integrated, with perhaps even some faculty panel sessions planned, and with a common reading list and other common experiences used in all the courses. In the second case, however, the reading and activities suggested for each of the individual courses may be independently decided upon by individual instructors, and they would work separately with the students of the Primary Group; the common thread among the courses is, then, simply the same general immediate topic.

In a third case, it would be conceivable that the immediate topic treated in each of the courses, while related in some way to a central problem, might in fact be different. In a word, the faculty team working together with the students in the Primary Group, organizes the inquiry according to the needs and preferences of the faculty and the students in the Group. The great advantage of the form of organization adopted by College M is that it does not, in itself, encourage or reward one teaching style and discourage others. It offers real freedom to teach and real freedom to learn.

MODEL P: A FUTURE-ORIENTED CURRICULUM

Model P is based on a curriculum plan originally presented to a faculty discussion group at the University of Washington by one of its members, Roy L.

Prosterman, during the winter quarter, 1968. While the basic idea, and a number of details in Model P are taken from Professor Prosterman's one-page written plan (sent to me through the courtesy of another seminar member, Professor Howard Lee Nostrand), I have revised the plan considerably and have elaborated Professor Prosterman's original idea for presentation here.

Model P is entitled "A B.A. Program in Future Studies." During his four years, every student in the program takes six courses. Each course is a four-year sequence. (See Table 2.) For each course there is a general reading/activity list, to be followed by all students registered for the course; appended to each course is a group of elective sub-courses, dealing with specific topics within the framework of the main course; every student signs up for the sub-course of his choice. The main course meets once weekly; each sub-course meets three times weekly. The six courses (which continue throughout the four years) are as follows:

COURSE #1: HISTORY

In the freshman year, the course is devoted to western civilization, with sub-courses covering various facets like war and peace, wealth and poverty, political organization, the relation of the arts to society, etc.

In the sophomore year, the course is devoted to the developing nations and their problems, with sub-courses covering specific countries or specific problems common to several underdeveloped nations.

In the junior year, the course is devoted to "periods of abrupt change" with some sub-courses devoted to specific periods of revolution (e.g., "1848") or specific themes that may be analyzed for several such periods (e.g., power structures).

In the senior year, the course is devoted to the history of the future.

COURSE #2: SCIENCE AND TECHNOLOGY

During the freshman and sophomore years (students may take either of these courses in either year), two courses are required. One is entitled "Bio-Psychology and Genetics" and deals with modifications of the internal human 'environment'; the other is entitled "Technological Change" and deals with modifications of the external 'environment.' Both courses are given against a background of the framework of modern scientific theory.

In the junior year, the course is devoted to a study of the technologies of war and peace, with consideration of such problems as arms control and disarmament, world health, and population control.

In the senior year, the topic is: application and control of alternative future technologies.

COURSE #3: VALUES

The freshman year course is devoted to imaginative literature, analyzed within a values framework. The sub-courses may deal with different sets of literary masterpieces, some emphasizing specific genres (e.g., science fiction or film), others the works of specific cultures, and still others a random selection from Homer to Kurosawa, or Judges to Bergman's Persona, or Lao Tse to Bob Dylan.

The sophomore year course is of the same sort, but devoted to the non-verbal arts, including the ones often classified as "applied" and "recreative," with special emphasis on arts and the city.

The third year's course is on the problem of norms, social ethics, social controls within a "values" framework, and "private" ethics.

The senior year course continues the work of the junior year, moving into a study of normative social systems: justice, the law, etc.

COURSE #4: THE CITY

The lectures of the main course deal with urban problems--demographic ecological, political, etc.; the sub-courses are not regular classes on campus but consist of work projects in the community, covering a variety of areas during the four-year span.

COURSE #5: MATHEMATICAL AND RELATED STUDIES

The four years of work would cover statistical analysis, formal and symbolic logic, game theory, projection of simple trends, and projection of complex trends.

COURSE #6: INTERCULTURAL STUDIES

This course consists of a study of several cultures from a contrastive point of view. The first year is devoted to a European culture, the second to an Asian or African culture, and the third to American culture, seen contrastively. In the senior year, the student may either select another foreign culture to study, or he may devote his time to an intercultural project of his own design.

In studying these cultures, the student is interested not only in the manifestations of "high" culture (the cultural masterpieces and achievements of which members of the civilization are proud and which are transmitted to the young through formal education) but also in cultural phenomena as an anthropologist approaches them. (A more detailed treatment of this subject is given in my essay in Stress and Campus Response entitled "Intercultural Studies Versus the Foreign Language Requirement" [Smith, ed., 1968]).

APPROPRIATENESS OF MODEL P

Model P is appropriate for any student planning to enter any field of specialization now covered by the social and behavioral sciences and the humanities; but it would be particularly appropriate for anyone entering the fields of law, the helping services and education, business management and public administration, or any post in the political sphere. It is especially designed for "tomorrow's leaders." Certain special skills (e.g., a foreign language) can be obtained in more efficient ways than through formal college classes, and provisions are made in Model P for students to acquire them during the year or in summer sessions.

It is assumed that students entering this program as freshmen have a fairly high degree of reading/writing skill; still courses during the freshman year--and indeed throughout the program--stress development of reading/writing, problem-solving, and analytic skills. For this reason, there is no such course as "Freshman English" planned as part of the freshman-year program.

Six courses appears to be a heavy program. But relationships are so close among them, the six that each student carries each year in Model P, taken together, do not constitute as great a "burden" on a student as the four totally unrelated courses that he normally carries in a standard curriculum on most campuses today. Moreover, much of what students today carry as extra-curricular projects and as "overload" because of their interest in community affairs, are in Model P part and parcel of course work.

Perhaps the most significant point that can be made about Model P is that it is "future-centered." It is not like most old-fashioned liberal-arts curricula, oriented as they are to man's past achievements. It is not like most contemporary curricula, especially in the social sciences, "present-oriented," tied to an analysis of--and limited by--man's present problems. Nor is it like most professional curricula, so job-oriented as to be inappropriate for the education of leaders. Model P's basic premise is that the future leaders of the human race must learn to "invent" the future--must learn how to make it different by planned intervention. The entire design is built with that concept at its center.

COLLEGE J: A COMMUNITY COLLEGE MODEL

College J is a fictional two-year college, but we believe its curriculum will be of interest to every community college curriculum planner. College J has taken advantage of the recent liberalization in "course equivalency" agreements between two-year colleges and the four-year colleages to which many of its students transfer. Until fairly recently, College J had had to maintain a "transfer" curriculum in which no radical innovations could be accommodated because graduates would otherwise have run into difficulty when they transferred to nearby four-year schools. Recently, however, new agreements have been reached whereby College J students are to receive full credit at four-year institutions for any work that College J certifies is of "college level." This relationship has now made it possible for College J to introduce an innovative curriculum -- one it has been trying to institute for some time but could not out of fear that the senior colleges would not give credit for the untraditional courses in this new model. It has now introduced this new curriculum for all students.

During the first week of the entering freshman semester, no classes are held for freshmen. A great deal of testing and interviewing is scheduled for each entering freshman; and his abilities, potentialities, "hang-ups" (if he has any -- and most do), etc., are diagnosed. The testing and interviewing is held during the morning or afternoon hours, depending on the student's work schedule if he is a working student. During that week, his evenings (or his mornings, or afternoons if he works during the evening hours) are spent in sessions arranged entirely by students. There are various "encounter" group meetings with other freshmen, "orientation" sessions with sophomores, and several sessions with a special 5-man group to which each freshman is assigned. This special group is called the R-Group.

At College J, every student is a member of an R-Group, which usually consists of two sophomores and three freshmen. The sophomores serving on the R-Group meet weekly with a member of the R-Group Directorate, which consists of sophomore students appointed by the Student Legislature; R-Group directors receive a salary from student funds for their work. (No one quite knows where the term R-Group originated; some say it comes from the word "responsible," since each member of the R-Group is in some sense responsible for all other members of the Group; another hypothesis is that it is short for Rapp-Group, "rapp" being a verb/noun in student slang, common in the late Sixties, probably derived from the word rapport.)

An R-Group retains its identity for at least one semester. It may then decide to "die" or "be killed" (these are the terms the students themselves have come to use, possibly because the R-Groups have a life of their own in some special sense), while its members seek, or are assigned by the Directorate, to another Group; or a given R-Group may decide to continue on for another semester, but it may do so only if four of the five members agree and if those four continue their studies at College J.

No faculty may become members of an R-Group.

THE CURRICULUM

At College J, there is no distinction between transfer and terminal curricula. All students take the same pattern of courses.

The day is divided into three formal periods: "the a.m." which runs from 8:00 to 11:00 a.m.; "the p.m." which runs from 1:00 to 4:00 p.m.; and the "evening" which runs fron 7:00 to 10:00 p.m. All formal periods are thus three hours in length.

Course 1; AIL. The letters stand for "Auto-Instructional Laboratory." This course is scheduled three periods per week for each student at the laboratory and one period per week with his AIL Tutor. Since the laboratory is open at hours when no sessions are scheduled, students generally attend more than nine hours per week. During the three formal sessions, however, materials are scheduled in advance; whereas at other times, the student works completely on his own -- with help, of course, when he needs it, from laboratory assistants. For his formal sessions, each student works on materials that are individually scheduled for him. This individual schedule is worked out in the tutorial sessions which he and his AIL Tutor have weekly. At those sessions, written papers are reviewed, test scores analyzed (the tests are taken, of course, during the laboratory sessions) and plans are made for the next AIL work periods.

The AIL materials include programmed texts, tapes, films, an array of manipulable objects (as in the Postelethwaite Purdue auto-instructional laboratory course), but above all, they depend heavily on Computer-Assosted Instruction.*

During the first two semesters, the AIL materials concentrate on language and mathematical skills and operations. During the second two semesters, the

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*By the time College J comes into existence, fairly sophisticated programs will have been written for the computer; thus CAI is a significant part of AIL at College J.

AIL materials enable the student to master the basic vocabulary, principles, and concepts in the Humanities, the Social Sciences, and the Natural Sciences.

Course 2: Intercultural Studies. This course is scheduled two sessions weekly. It is a four-semester course, taken by all students, in contrastive, cross-cultural experiences.

During the first semester, two American sub-cultures are studied; each student is expected to study a sub-culture to which he belongs (e.g., American WASP suburbia, Afro-American, Mexican-American, Nisei) and a second to which he does not belong.

The second semester is devoted to a contrastive study of American culture and another contemporary culture. The third semester is devoted to a contrastive study of a contemporary culture and a past culture. The four semester is devoted to alternative projections of future civilizations.

Course 3: Job Experience. The schedule for Course 3 varies from semester to semester; it meets minimally for one period per week. The first semester is devoted to a "practicum" at a specific job, with emphasis on skill and efficiency. During the second semester, the experience is more generalized, with sample tasks assigned in jobs related to the first-semester practicum but not identical with it. In the third and fourth semesters, a practicum covers two specific job experiences, one of which may be the same as that done during the first semester but at a more advanced level.

The object of Course 3 is not to train the student for a specific job (even though this is likely to be one of its by-products) but rather to give him an opportunity to "test" himself and sample a variety of work situations.

Course 4: The R-Group Meetings. These take place at least once weekly.

As has already been stated, this course is run entirely by students.

As a student moves from freshman to sophomore status, his duties and responsibilities in Course 4 shift radically. As a freshman, he is in a sense the responsibility of the two sophomore students in his R-Group; as a sophomore, he takes on responsibility for the freshmen assigned to his R-Group, and in addition, reports to the R-Group Directorate at regular intervals.

The subject-matter for discussion in Course 4 is the growth and development of the members of the Group, and in particular the relationship between their college work and their growth as responsible, self-directive adults.

Upon satisfactory completion of these four courses, a student receives his College certificate.

MODEL A: AN INTERDISCIPLINARY DEGREE CURRICULUM IN THE HUMANITIES FOR A SENIOR COLLEGE

Model Z is based on a curriculum designed by Harold Zyskind (Professor of Philosophy at SUNY, Stony Brook) for the New School for Social Research.

The course of study is divided into three "stages." Stage I deals with topics common to all the Humanities and is entitled "Interdisciplinary Concepts." Stage II, dealing with the individual humanistic disciplines, stresses their separateness from one another and seeks to help the student isolate each of them and apprehend its peculiar excellence; Stage II is entitled "The Disciplines." Stage III, entitled "Values," brings the humanistic studies back into unity--as in Stage I--but through different principles of organization.

Just as the subject-matter for each stage is different, so is the method.

Stage I considers topics which have always had momentous import for man, recurring from epoch to epoch and in field after field. Class discussion seeks to bring the student into a direct and vivid encounter with challenging ideas. Thus the method is "rhetorical"; the works are treated less in their own terms than as instruments for generating thought.

In Stage II, the method shifts. Here a "disciplinary" method supplants the rhetorical, and a self-conscious concern for structure asserts itself. The pace is slower and less exciting than in Stage I, the movement more considered, the progression more rigorous. Stage III, moving to a broader organization, treats the disciplines "dialectically" encompassing each in a larger intellectual context.

The differentiation in subject-matter and method is reflected in a different sort of experience for the student (as he moves from one stage to the next) with a different sort of result. In Stage I, his purpose is to effect an encounter--and the product is, ideally, an awakening and a discovery. Stage II, however, making demands of a more rigorous sort, leads the student to the arts of analysis. He analyzes the parts and their functions, but once having taken an artwork apart, he must put it back together again, perceiving it anew as a self-animated whole. The activity of Stage II, then, is analysis, and the end-product is reconstruction.

In Stage III, the student moves from analysis to judgment. And the end-product of that activity is commitment.

During the three stages, the student thus moves experientially from (a) encounter to (b) analysis to (c) judgment; and the end-products are (a) discovery, (b) reconstruction, and (c) commitment.

The uniqueness of Model Z is that it not only plans the subject-matter sequentially (ELEMENT #1) but it plans student experiences as well (ELEMENT #5), as the student moves from encounter and involvement, in the first stage of the program, to commitment in the last stage.

APPENDIX C
TABLE 2

MODEL P: A B.A. CURRICULUM IN FUTURE STUDIES
(based on a conception of R.L. Prosteman)

(A student is required to take every course listed, but may select among the "subcourses" offered in conjunction with each; for a definition of this relationship, see descriptive text.)

COURSE	FRESHMAN YEAR	SOPHOMORE YEAR	JUNIOR YEAR	SENIOR YEAR
1. HISTORY	Western Civilization	Developing Nations	Periods of Abrupt Change ("Revolution")	History of Alternative Futures
2. SCIENCE AND TECHNOLOGY	Bio-Psychology and Genetics	Technological Change	Technologies of War and Peace	Application and Control of Alternative Future Technologies
3. VALUES	Imaginative Literature (Values framework)	Non-Verbal Arts (Likewise)	Norms, Social Ethics and Problems of Freedom/Control	Social Systems: Justice, the Law, etc.
4. THE CITY	Course lectures deal with demographic, ecological, political, etc., problems while subcourses consist of work projects in the community.			
5. MATHEMATICAL AND RELATED STUDIES	Statistical Analysis	Formal and Symbolic Logic, Game Theory, Projection of Simple Trends		Projection of Complex Trends
6. INTERCULTURAL STUDIES (Contrastive)	A European Culture	A Non-Western Culture	American Culture	Special Intercultural Project

APPENDIX D

A DESCRIPTION OF THE
EXPERIMENTAL FRESHMAN-YEAR PROGRAM
AT SAN FRANCISCO STATE COLLEGE (EFP)

In his preface to Roy Heath's analysis of Princeton undergraduates (1964, p. xv), David Riesman states: "We do not know if Dr. Heath is right in supposing that growth /toward the goals of general education/ requires a residential college with the close ties among students this allows." Riesman then distinguishes between the residential college and the commuter college, and continues: "While I myself am inclined to think that the residential college has the greater impact, and the colleges cited by Philip E. Jacob as having 'peculiar potency' are residential, it seems to me conceivable that a commuter college by heroic experimentation, could become almost equally potent."

The Experimental Freshman-Year Program was designed as an experiment to put that conception to a test. Can a large-city, commuter college devise a freshman-year general education program that has the 'peculiar potency' which Jacob observed only certain residential colleges possessed?

The planners of the EFP at San Francisco State replied in the affirmative. They drew up the hypotheses stated in the following paragraphs, tentatively accepting them as the bases on which the Program was to be built.

THE SEVEN PRINCIPLES ON WHICH THE PROGRAM IS BASED

PRINCIPLE 1

THE DEVELOPMENT OF CLOSE TIES AMONG EFP STUDENTS, AS MEMBERS OF A RELATIVELY SMALL "PRIMARY GROUP," WILL CONTRIBUTE TO THE ACHIEVEMENT OF GENERAL EDUCATION GOALS.

The formation of a "primary group," consisting of members who care about each other, seems indispensable in a successful freshman-year program. When undergraduates complain of the "impersonality" of a campus, it is this aspect of American college and university life that is in question.

HYPOTHESIS: The formation of a relatively small "primary group," consisting of students and faculty who care about each other, will combat the "impersonality" found on most large campuses and facilitate student progress.

Principles 2 and 3 are closely related.

PRINCIPLE 2

SYSTEMATIC USE OF THE CITY AS AN EDUCATIONAL LABORATORY FOR EFP STUDENTS WILL BE BUILT INTO THE CURRICULUM.

PRINCIPLE 3

ORIGINAL TEXTS AND OTHER READINGS WILL PLAY AN IMPORTANT BUT NOT FOCAL ROLE.

None of the experiments in general education carried on by large-city colleges have systematically used their urban environment as an educational laboratory. In a way it is surprising that the general-education experiments of the Thirties and Forties in or near large cities -- Columbia, Chicago, Sarah Lawrence, Minnesota, or even Michigan State -- did not build this feature into their model. It is even more surprising that current experiments, e.g., Monteith at Wayne State or the Tussman Program at Berkeley, should not have done so. The curriculum at both is still basically book-centered and concept-oriented.

> HYPOTHESIS: In an urban college, general education goals can be considerably more firmly achieved if the city is used in a systematic way as an educational laboratory. The development of such activity as an integral part of the curriculum itself -- for we are not dealing here with the extra-curricular 'field trip' -- demands a creative faculty who must find a way to build such experiences into the very fabric of their courses.

If the city is to be used in this way, i.e., if the city is to be used as a new form of textbook, what will be the relationship between traditional text materials (and assignments in them) and assignments to 'field experiences'?

> HYPOTHESIS: However important 'direct' experiences might be in an education, a meaningful general education curriculum cannot consist exclusively of field experiences, for part of a student's education lies precisely in learning how an educated man analyzes and interprets these, how he sifts them for significance, and how he adds the new learnings to the central body of knowledge he already possesses.
>
> At the same time, a meaningful general education curriculum cannot consist wholly of analyses and interpretations of historical, scientific, philosophic, and literary masterpieces, for their value lies precisely in serving as means leading to greater understanding of life and people and problems in the world we live in and will continue to be living in.
>
> Neither field experiences, on the one hand, nor books and dialogue, on the other hand, alone supply the answer. The meaningful curriculum must find the balance between these two and still maintain them as parts of a single whole.
>
> If such a combination is not feasible, then it is likely that no college curriculum can be meaningful for the goals of general education.

'Direct' experiences cannot fail to prove exciting to students. Even a list of possible ones is exciting: sessions with a group of senior citizens (what do they do? what do they think?); visits to the Buddhist Temple; tutorial sessions with underprivileged children (to catch them, if possibe, before they learn the taste of failure); going behind the still basically book-centered and concept-oriented.

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'Direct' experiences cannot fail to prove exciting to students. Even a list of possible ones is exciting: sessions with a group of senior citizens (what do they do? what do they think?); visits to the Buddhist Temple; tutorial sessions with underprivileged children (to catch them, if possibe, before they learn the taste of failure); going behind the scenes at the Brundage collection at the DeYoung; working in a neighborhood Youth Corps project; attendance at Little Theatre productions in town; sessions backstage at the San Francisco Ballet; participation in the language program at the Mission YMCA (designed for Spanish-speaking adults learning "survival English"); playing with a rock and roll group at Cedar Alley or a folk group at the Coffee Cantata; working for a week at the morgue, a police station, a California assembleyman's office, a city court; sessions at the American Friends or the John Birch headquarters; etc.

The list itself, except to the most hardened academic, is seductive. But we reiterate an aspect of Principles 2 and 3 that cannot be overstated: All of the 'direct' experiences (and the discussions that prepare for them as well as the reports which follow them) must be systematically worked into the curriculum, together with reading assignments from such thinkers as Conrad and Fromm, Becket and Myrdal, Sophocles and Einstein.

PRINCIPLE 4

STUDENT PARTICIPATION IN PLANNING THE STRUCTURE OF COURSES IS DESIRABLE.

HYPOTHESIS: If the student group has an opportunity to participate in planning the structure of courses and in formulating assignments, it is likely that each member will feel a greater responsibility for fulfilling the assignments.

Three observations are in order. First, if this hypothesis is valid, it is of great significance, for the gain is a double one: the students will be more strongly motivated to do their college work and at the same time they will be being better prepared for a world in which (we hope) significant aspects of their lives can be self-directive.

Second, if the student group participates in planning -- if this activity is part of their education -- then good teaching demands that the group have available various resources to help it make considered judgments. Such resources might, perhaps, include upperclassmen and SFSC faculty unrelated to the Experimental Program, or members of the San Francisco cultural community, invited as 'resource people' when such planning discussions are scheduled.

Third, if an Experimental Program instructor fears he will be unwilling to accept certain suggestions because they may not be philosophically congenial to him or emotionally comfortable, he should be frank enough to limit the alternatives at the outset. He must not, under group pressure, accept a plan with which he thinks he will be unhappy. And, clearly, unless the student group wants to "punish" him in some way, it too would not want him to accept such a plan.

Whether the course structure needs to be firm from the beginning will depend on several factors, among them the instructor's view of the nature of his own discipline and the degree to which the instructor and his students need to feel themselves constantly on sure footing before they are willing to venture out over the chasm. In any case, while practice must differ from one course to another and from one professor to another, no instructor can reject the principle of student participation in planning on the naive ground that a professor should not give up to students what is rightfully part of his job. (For similar reasons, we believe that no professor ought to assume, in any naive way, that he knows more than his students.)

PRINCIPLE 5

STUDENTS WILL DEVELOP A RELATIONSHIP TO EACH OF THEIR PROFESSORS WHICH IS NOT "CONTAMINATED" -- TO QUOTE RIESMAN -- "BY THE OBLIGATION TO BECOME (OR TO REJECT BECOMING) A DISCIPLE IN THE FIELD IN WHICH THE PROFESSOR TEACHES."

PRINCIPLE 6

SMALL STUDIES 'IN DEPTH' WILL BE UNDERTAKEN BY EACH STUDENT (ON AN INDEPENDENT STUDY BASIS IF POSSIBLE) IN DIFFERENT FIELDS OF KNOWLEDGE, SO AS NOT TO FOSTER IN THE STUDENT A PREMATURE COMMITMENT TO A PARTICULAR FIELD OF STUDY.

These two principles are two sides of the same coin; the first of the pair states the point as it relates to the student-professor relationship; the second states the same point as it relates to the learner's relationship to his subject matter.

HYPOTHESIS: General education goals will be facilitated in a program taught by professors each of whom "can respond to students on more levels than their prowess in his discipline" (to quote from Riesman again).

HYPOTHESIS: It is possible and desirable to devise a freshman-year program in which students do small studies 'in depth' on an independent study basis where feasible, individually planned so that each project fits each student. If these 'in-depth' studies are undertaken in different disciplines, they will not induce in the student, prematurely, a sense of commitment about his future field of specialization.

Both of these hypotheses have practical implications for the instructional staff of the Experimental Program. One is that instructors will have to have a picture of each student's activity in all of his classes. Aside from regular meetings devoted to the exchange of such information and other devices such as the intervisitation of classes, instructors will probably wish to read all the papers students write for all of their classes. (The Coordinator will make provision for this possibility.)

The total curricular plan should make it probable that the 'in depth' studies done by students will be relevant to more than one of their courses. Hopefully, too, in such projects -- done individually or, conceivably, under special circumstances, pursued jointly by a group of two or three students working cooperatively -- the student will be able to combine in a single effort certain direct 'field experiences' with reading and research and with an opportunity for an effective presentation of his work through an oral or written report. (See the section which follows for a list of project suggestions.)

PRINCIPLE 7

A STUDENT'S RELATIONSHIP TO HIS SUBJECT MATTER AND TO HIS PROFESSOR SHOULD NOT BE "CONTAMINATED" BY THE TRADITIONAL GRADING SYSTEM.

HYPOTHESIS: If the traditional grading system could be abandoned for the freshman year, growth in students toward the goals of general education would be considerably facilitated.

A final word about the concept of student freedom in EFP.

It would be inaccurate to say that EFP plans to be more "permissive" than traditional college programs or that EFP students will have greater freedom than other freshmen.

It is not a question of "greater" or "lesser." It is rather a question of different kinds of freedom, for in some ways controls over an Experimental Program student (coming from the faculty group and also from his peer group) will be greater than a campus freshman will experience -- and in some ways they will not be as great.

But however the details work themselves out, it is quite clear that it is not the degree of freedom or control which will distinguish the Experimental Program from traditional programs. What is significant is the difference in the pattern of freedom and control, in the way the Experimental Program student participates in building that pattern, how he shares in imposing the controls, and how he uses the freedoms to his educational advantage.

SUGGESTIONS FOR COMMUNITY-ORIENTED PROJECTS

1. Some aspect of religious activity in San Francisco -- e.g., one of the non-Western religious organizations; religious leaders and civil liberties; the religious charitable organizations (their history & work, their philosophy, etc.) including Salvation Army (*cf.* G. B. Shaw, *Major Barbara*), etc.

2. Some aspect of art/music activities in the city -- the museums and their collections; or an investigation of just *one* collection (e.g., the Brundage Collection at the DeYoung Museum. Other examples: S.F. Teen-age music-dance-art activity, folk-rock groups, Fillmore Auditorium, etc., giving a historico-sociological analysis of the phenomenon; the Composers Forum, its work, etc.; the Symphony, its history, etc. (including interviews with the players &, if possible, conductor), etc.

3. The Art Film House in San Francisco: its products, its clientele, its function. The distribution & reception of art films *versus* commercial films; etc. This may or may not include the viewing and discussion of the films themselves. (Or a project may be worked out which focusses on the films themselves as artworks -- perhaps limiting the work to foreign films *or* to American art films *or* to S.F. filmmakers alone.)

4. Little Theatre in San Francisco. One may do a survey of several, or take only one, concentrating on its genesis and development, what plays it has done, how it recruits, how it supports itself, how it reflects its philosophy of drama (if it has one), etc.

5. Some aspect of the economic life of San Francisco (involving, hopefully, the place where the student works) -- i.e., its history, its present owners, their background, clientele, relations with the public, competitors, advertising, etc. Interesting study could be done of the Games of Chance now being used to attract more business to grocery markets, gasoline stations, etc. Another idea: a study of trading stamps, their development, their influence on buyers and sellers, the psychology behind them, etc. Still another idea: analysis of advertisements; analysis of packaging from both an artistic and commercial point of view.

6. Study of transportation problems in the Bay Area, or in the city. Possible topics: the 'romance' of the cable car (its actual history, including efforts to supplant this form of transportation with something more efficient,

versus the 'image'); BART .

7. The school system, or some aspect of it. Possible topic: analysis of the different kinds of private schools (who goes to them, for what reasons, how they serve their public, how they are financed -- are public funds used, and for what purpose? -- and whether they teach a set of values substantially different from the public schools).

8. An analysis and 'profile' of a San Francisco neighborhood, for example: Telegraph Hill/North Beach from 1950 to 1965 (OR an analysis of the changing characteristics of Grant Avenue from Broadway to Union during that period); Haight-Ashbury, Inner Mission, Japan Town, the Western Addition; OR the South of Market neighborhood; etc. Another topic: The San Francisco Russian Community (how it developed, what its cultural and social and religious institutions are, etc.).

9. Health, safety, law enforcement organizations, the courts, etc.; e.g., the San Francisco Police Department; the legal system; consumer protection.

10. Service organizations, e.g., the San Francisco YMCA (its philosophy, its activities, its influence, how it differs from other Y's throughout the country, the influence of its leading figure until 1967, Roy Sorenson, and his influence on national policy, etc.).

11. Radio/TV stations: KYA, KPFA, KQED -- history, philosophy, how financed, how decisions re programming are made, etc.

12. Art-coffee houses as a San Francisco institution.

13. San Francisco poets and poetry events.

14. The Jazz-Poetry movement in San Francisco (analysis of records and publications, interviews with the people who played a part in the development of the movement, etc.).

15. A discussion group on contemporary fiction, reading works of San Francisco writers.

16. A discussion group of foreign literature (possibly connected with the language groups).

17. An analysis of the lyrics of folk-rock -- psychological-philosophical dimension etc.

18. Comparison of the regular program for freshmen with the Experimental Program -- using interview technique, visiting classes, talking to faculty, advisers, Associated Student officials, etc.

19. Foreign students and their problems (This could be limited to a single foreign student if you can get him to let you do a 'depth'-study).

20. The student-run Experimental College: history, present activities, evaluation, future potential.

STUDENT OPINION AT THE MIDDLE OF THE FIRST SEMESTER

A brief questionnaire was administered to EFP students at the middle of the fall semester. The results showed an overwhelming student enthusiasm for the Experimental Program. The instrument and the response data are given on the next page.

EXPERIMENTAL FRESHMAN-YEAR PROGRAM (EFP)

For each item, please indicate whether you agree or disagree WITH THE SENTENCE IN CAPITAL LETTERS by encircling the appropriate letter, according to this key:

A! means: I strongly agree. D! means: I strongly disagree.
a means: I agree. d means: I disagree.

N means: I can't (or don't want to) make a judgment.

A!	a	D!	d	N	
46	50	--	4	--	1. A main purpose of EFP is to combat the impersonality that exists on all large campuses today, especially in the case of freshmen. EFP IS SUCCESSFUL IN ACCOMPLISHING THIS AIM.
18	66	4	12	--	2. One of the beliefs of EFP is that an excellent general education will include both direct experiences in the city and book learning. EFP EMBODIES THIS BELIEF IN A WAY THAT CONTRIBUTES TO THE EDUCATION OF EFP STUDENTS.
60	36	--	4	--	3. One of the features important to EFP is a relationship between faculty and students that gives enough freedom so EFP students can tell instructors about their ideas and opinions. THIS TYPE OF FREEDOM ACTUALLY EXISTS IN THE PROGRAM.
42	30	4	12	12	4. EFP believes that most students will get a better education if they are not pressured by grades, deadlines, due-dates, threats, etc. AS I DEFINE "EDUCATION," I AM GETTING A BETTER ONE THAN I WOULD BE GETTING IF THERE WERE GREATER PRESSURE ON ME TO WORK--PRESSURE FROM GRADES, DEADLINES, DUE-DATES, ETC.

One of the purposes of EFP is to give students a greater opportunity to be "self-directive" than they would have in a standard program--that is, an opportunity to learn how to give direction to themselves rather than depend on a person in authority. Items 5 and 6 concern this point.

A!	a	D!	d	N	
64	26	--	6	4	5. CONSIDERING THIS FIRST AS A PHILOSOPHY, I BELIEVE IT IS A SOUND PHILOSOPHY.
22	48	8	14	8	6. CONSIDERING THIS PHILOSOPHY AS IT IS WORKING IN EFP, I BELIEVE IT IS WORKING OUT TO A SIGNIFICANT DEGREE.
30	44	6	14	12	7. It was the hope of the EFP planners that by this time, each student could find other students he liked and would work with. THAT IS TRUE; I HAVE FOUND STUDENTS I LIKE AND CAN WORK WITH.
50	40	4	4	2	8. One of the difficulties freshmen encounter in college is that they are often regarded as immature young people, unable to take responsibility. How has the EFP faculty done on this point? EFP FACULTY HAVE TREATED EFP STUDENTS AS RESPONSIBLE YOUNG ADULTS RATHER THAN AS IMMATURE ADOLESCENTS.

NOTES: N= 50 (the total number of students in the Experimental Program).
Figures given for each response are in percentages.
No response to an item has been counted as an N response.

APPENDIX E

SOME OBSERVATIONS ON THE USE OF THE WORD "MODEL"

The word model has created considerable confusion in our field (and one supposes in other fields as well) because it is used in a large number of different senses, depending on the level of abstraction that is intended. For example, in the title of Chapter 2, "New Models and Old," the word has a different meaning (i.e., it is on a different level of abstraction) than it has in Chapter 3; but it has about the same meaning in Chapter 2 as it has in Appendix C. Once the principle of "abstraction levels" is clear, the confusion disappears.

At the lowest level of abstraction, a curriculum "model" is about the same as "a model curriculum" -- that is, it is a concrete example of a curriculum design, worthy of being emulated or, at least, of serving as an inspiration for another design. At its highest level of abstraction, however, a curriculum "model" is a theory, that is, a framework that postulates what the "elements" of a curriculum design are -- any curriculum design -- and how they interrelate. There may, of course, be several different theories as to what the elements are and how they interrelate; hence one may find several models at this highest level of abstraction each competing with the others as the best image of the universe they are intended to model.

Thus, in the field of physics, the geocentric and heliocentric models were at one time competitors as images of the universe we now call the solar system. The Darwinian model came into competition with the Genesistic one, as did Marx's with those that projected the course of human events in quite a different direction, or Harvey's with the framework that was standard among physiologists in his period, or Einstein's with the standard Newtonian model.

The reader will notice that in giving examples of "models" at the theoretical level, in the preceding paragraph, we have not worried about distinguishing between those which deal with "scientific" phenomena and those that deal with "social" phenomena. Some of the models we have listed take as their universe human society (the 'sociosphere'), others the human body, still others the biosphere or even the outer limits of space. Many who distinguish between these two types of model often assume that those who study "scientific" phenomena and build a model of them (say, the heliocentric model of the solar system) cannot be interested in "reforming" or changing the system they study, while those who study some aspect of social phenomena and build a model of that universe (say, a banking system model; or a model of the institution of marriage; or a model of the curricular-instructional subsystem in American higher education) are tempted -- and, perhaps even originally motivated by the desire -- to "reform" or perfect" the universe being studied.

This distinction does not appear to me to be valid. For example, in the medical sciences, there is a strong desire to perfect concrete manifestations of the universe that is studied -- that is to say, where such systems, i.e., human bodies, are not "working" as they "ought to" according to the model. And some geneticists are now contemplating changing that model. Moreover, man has introduced many changes into the physical systems in which he lives -- the atmosphere, for example -- and such systems not only can, but must, be studied with an eye to "reforming" them.

Nevertheless it is true that examples of reformational motivation are clearest in models of aspects of the sociosphere. Thus it is not surprising that builders of models reveal their "biases" in the very labels they attach to the models they construct: the authoritarian classroom model versus the democratic classroom model; the conflict model in university governance versus the collaborative model; the hierarchical model in college administration versus the collegial model. (The last pair is also sometimes more neutrally called the vertical versus the horizontal model, referring to the shape of organizational charts.)

It is likely that in speaking of this last group of models, we have "descended" from the highest level of abstraction and are now standing on one of the in-between steps -- that is, between the highest level and the lower levels of abstraction. If we were to move down, we would perhaps meet other models familiar to us, such as the cluster-college model or the community-oriented curriculum model -- though these are of course still abstract designs.

In the light of these considerations, it is understandably difficult to know how to react when one hears from college administrators such sentences as these:

- "We are looking for a completely new model for the next college we build."

OR

- "We think we have found a completely new model for our general education program."

The next section of this appendix attempts to show, in the form of a parable, why these sentences can have as many meanings as there are levels of abstraction. If the reader already understands this principle to his satisfaction, he is of course invited to skip the parable.

A PARABLE ILLUSTRATING THE PRINCIPLE OF "LEVELS OF ABSTRACTION"

Let me introduce myself. My name is Brown--Bill Brown. I am the Idea Man at Bureau B4. The other day we had a brainstorming session at our office centering on an important problem of our day: transportation. We focused on the problem our society faces of transporting men and women from one location to another every single day as every individual moves through each day fulfilling the functions that his life and the total system require. We all agreed that we were very far from accomplishing this feat efficiently -- that is, in a way that maximally meets the needs of both the individual and society at minimal cost.

At the end of the session, the Director of our Bureau approached me and said:

"Brown, I want you to build us a model to bring to our next session."

"Yes, sir," I said enthusiastically.

I did not know quite what he wanted, but I thought I would try to begin by thinking of different kinds of car models. My mind went first to the family car in the garage. It is a Polloi, four-door model. Then I thought of our neighbor's sports model car, also a Polloi. I said to myself: "Are those two different car models?"

"Yes," I answered myself, "they are. They are different models because I can distinguish between the two as types; I can describe the features that all four-door Polloi cars have, and I can contrast those with the features that all sports model Polloi cars have."

After a moment, I went one step further. I contrasted those two Polloi cars with another completely different model -- the Elite. It turns out (and it did not take long for me to perceive this) that there are many more differences between the Polloi and Elite car models than between the two Polloi models. I really put my finger on two sharply contrasting models.

I told my office-mate about it the next morning. But he did not react very enthusiastically.

"They're still basically the same model," he said. "Both are front-engine machines using the water-cooling principle."

That afternoon, I worked on the problem with some concentration. I contemplated the front-engine water-cooled model (exemplified by both Polloi and Elite), and by studying the Popolo, saw how it exemplified a different model -- one characterized by a rear engine and an air-cooled system.

On the way home, I told a colleague on the bus about my progress. He pulled a long face.

"Bill," he said, "can't you see you're caught in a one-model box? Can't you see the Popolo is still the same basic model?"

"How so?"

"It's still the combustion-engine model. Entirely different models are already being designed -- the steam model and the electric model."

That evening, after dinner (which we rushed somewhat, as Wednesday is my wife's favorite TV evening), I resumed my inquiry. Yes, I decided, my colleague is quite right. I set myself to the task of differentiating between these models, analyzing the complex relationships between various fuels and the various mechanisms for converting their energy into the revolution of the car-wheels.

After my wife's TV shows were over, I explained the situation to her. I explained the original problem: transporting human beings from one location to another throughout each day as each individual moves through his day fulfilling the functions that his life and the total system require. She insisted on bringing all sorts of other problems into the conversation -- things she's picked up on the educational station -- like the role of social as well as physical mobility, the labor unions, the balance between production of consumer goods and other goods, the banking system and credit buying, the steel and rubber industries, oil and the Middle East crisis, air pollution, insurance companies----

"And what about our society's investment in roads and automotive services?" she asked. "They're all geared to the automobile as we know it. Doesn't that all enter into it?"

I finally succeeded in persuading her that one has to limit the problem he is working on; it would be too much, if I had to include the whole social and economic system!

In any case, the next morning, I felt I could make my first report to the Deputy Chief of my Section. I restated the Director's assignment. Then I reported on my progress, emphasizing the contrasts between the current standard model -- the combustion-engine model -- and completely new models.

"Excellent," he said. "Excellent -- thus far." Then he looked at the ceiling (he always does this when he speaks seriously) and he said: "But of course that is all basically just one single model. We have to look at the problem in society's terms, not in terms of the engineering profession. In society's terms, you have just one model so far -- the family vehicular model; they're just varieties of that one model, the private vehicle. But you're reaching the crucial part of your analysis; for you can now contrast that model with other transportational models."

"Yes," I said with enthusiasm. "For example, a system---" (I saw this clear as day) "---a system using vehicles that serve the general public, that transport many people simultaneously."

My conference with the Deputy Chief was an inspiration. "Thank goodness for intelligent bosses," I said to my wife euphorically over our martinis that evening.

I was still euphoric when our dinner guest arrived -- an old friend who knows nothing about such problems. But as he was curious, I explained what I had been working at.

"It looks to me," he said hesitantly, "like that is still all the same model."

"How so?"

"Well, it's all vehicles moving on revolving wheels. Maybe we need to look for a completely new model to solve this problem."

"I bet you're thinking of something like an airplane," I said quickly. "I thought of that, too. But, you see, the airplane really isn't right for the sort of short-range transportation we're mostly concerned with here."

"Yes," our guest acceded, "but actually I wasn't thinking of our present-type aircraft at all. I was thinking of an entirely new model. Some sort of small, off-the-surface, hovering-and-flying vehicle."

"Thank goodness we have such intelligent friends," I said to my wife that night just before we dozed off.

"You're pretty smart yourself," she said, warmly, yawning.

The next morning, I managed to have coffee with my Section Chief. I told him about my progress on the Director's assignment, emphasizing particularly the new concept of an above-surface vehicle as a contrast to the wheel-revolving vehicular model. To my surprise, he smiled and said:

"Isn't that still the same model when you come right down to it?"

"How so?"

"It's still, you see, vehicular transportation. That's really where the hang-up is! We'd solve this great problem if we could conceive of a completely new model."

"You mean," I asked, "a non-vehicular model?"

He nodded.

I stretched my mind, but no image entered it. "What sort of thing would non-vehicular transportation be?" I asked.

"Well," he said, "walking, for example."

A great insight broke upon me right after lunch. What we need, to solve our problem -- I saw this clear as daylight-- is a non-vehicular model that will combine the advantages of walking (no parking problem, no air pollution), of driving (door-to-door, set your own schedule), and of flying (speed, no highway construction).

"Build us a model." That was what the Bureau Director had asked of me; and the task, I reflected, was well on its way. I decided I had better report to him at once. I made an appointment with him for nine the next morning.

That afternoon, I worked out a clever diagram, using the "tree" model from mathematics. I started with a trunk and two branches (VEHICULAR MODEL and NON-VEHICULAR MODEL, they were labeled), then I divided the VEHICULAR side into its branches (ABOVE-SURFACE HOVERING-AND-FLYING and WHEEL-REVOLVING), then I divided WHEEL-REVOLVING into its branches, and so on up the line to the topmost branch on that side, which was my four-door Polloi model. The branches on the other side, of course, remained unlabelled.

When I showed it to my Bureau Director, I said, "All we have to do now is develop that NON-VEHICULAR branch up to the operational level. Of course, that will take a little time."

The director glanced at my tree for a moment, then said something that sounded like, "Oh no, oh no."

I said quickly: "You asked me to build you a model, and of course I haven't done that yet. This is just an interim report. Just to get your reaction."

Well, it turned out he was delighted I had taken the initiative to give him an interim report to get his reaction. It's sometimes good to be cautious. It turned out, you see, that that wasn't his assignment at all.

He told me I was trying to do something we weren't ready for. He said we had to find a systematic way to think about the whole problem first. He pointed to the base of my tree and the section before the branching began, and he said: "We've got to stick right there. We've got to work it out first right there."

Then he talked a good deal about "levels of abstraction" and said what we needed first was a theoretical framework. He said he was using the word "model" in a different sense -- at a much higher level of abstraction, he said -- and he gave me two examples: as when a personality theorist speaks of "the Freudian model" or as when a historian of science speaks of the "Galilean-Cartesian-Newtonian model." It suddenly became clear as day.

"You see," he said, "when I asked you to build a model, I meant for you to take the 'universe' we were talking about at our brainstorming session and work up a 'model' of that universe -- a model showing the different elements in that universe and how they relate to one another."

The breakthrough came right after lunch.

That evening, I remarked to my wife over our martinis: "Thank goodness I have such a sharp Bureau Director. What a mind!"

"You're pretty clever yourself," she said warmly, moving into the living room to turn on the TV.

"You know," I yelled after her, "I had a breakthrough this afternoon. All those questions you were raising the other evening about my----?"

"What about them?" she yelled back, as the TV sound swelled up.

"Well, you know, it turns out they're all connected to what I'm doing! They're part of my universe! What do you think of that?"

"'...It's all one Bag, we're all one Thing...'" the TV screen sang back in reply.

THE TWO BREAKTHROUGHS FOR BILL BROWN

In the course of Bill Brown's work at his assignment to produce a model, he experienced two "breakthrough" insights, each related to the other. One of them has to do with levels of abstraction -- the distinction between the word "model" when (a) it designates a representation of a concrete set of relationships that exists in the real world (or in the imagination, but capable of being constructed and entering the world of existence); when (z) it refers to a theoretical projection of that system of relationships stated in terms capable of describing every concrete manifestation; and when (b to y) it refers to any descriptive or analytical stage whatsoever between (a) and (z).

If we take the simplest of examples -- a set of elements in which there are no moving parts, that is, which do not exist in a dynamic relationship -- we may see what level a and level z might consist of in the case of a "table model." At level a, the model might consist of a representation of a particular Louis XIV table; at level z, it would be an abstract entity describing a set of relationships capable of including every possible variety of table: drafting- or dining-, lamp- or pedestal-, cocktail- or coffee-, side- or snack-, card- or billiard-, occasional- or kitchen-, head- or conference- or speaker's. In a word, at level z, it is a Platonic "Idea." As a second example, let us take the institution of the "family" in human society--a dynamic universe whose parts are in constant motion. At level a we would describe these parts, and the interrelationships among them, for one specific type of family; at z, the abstraction must move to a level capable of including every possible specific type--again, this is the Platonic Idea of "family."

The word "model" can appropriately be used at every level of abstraction. Clearly the story of Bill Brown shows that the word may be used as legitimately--in spite of what others tell him--for the four-door Polloi model as for any of the levels of abstraction above it; two different models are "different" at one level of abstraction, though they may illustrate the same model at some higher level of abstraction. Hence a dialogue about "models" may--and often does--become confused if the levels become confused.

The second "breakthrough" insight that comes to Bill Brown (with the aid of his wife, who, as Mr. Brown explains, has learned these complex concepts on educational TV) is that in the model he was trying to construct, relationships to other systems become important--i.e., begin insistently to impinge on the inquiry--only as one moves upward in the scale of abstraction. Another way of stating this same point is to say that on the lower levels of abstraction, building a model--the kind his Bureau Director did not want--was for Bill Brown basically an engineering problem; on the upper levels, it had to become a scientific problem. (The analogy to curricular models is clear: building a curriculum model on a concrete level is more a techno-engineering problem while building a curriculum model at the highest levels of abstraction is primarily a scientific/philosophic one. Curriculum-building as a technology is therefore a different activity than curriculum as a science. The reader is referred, for this point, back to Chapter 1--the point quoted from Katz and Sanford (1962) that a science of curriculum is still badly needed.)

The following nine sentences are taken from a notebook which the writer kept for several months during 1967-68, in which he tried to jot down every sentence using the word "model" that he overheard at the Center for Research and Development in Higher Education. These nine have been selected because, together, they illustrate quite well the principle of abstraction levels. They have been rearranged for easier study into sets of three. In each set, there is a progression from a lower to a higher level of abstraction.

Set A

1) "American higher education followed both British and German models, the first primarily for undergraduate colleges and the second for graduate schools."

2) "We have to replace the adversary model that now pervades higher education, with the collaborative model."

3) "They are developing mathematical models for natural language, and already considerable progress has been made."

Set B

1) "Our family was modeled on the army: papa was the general, mama the captain, my brother the sergeant, and I was a private!"

2) "Oh, our family followed the "colleagal model": we were all colleagues, and no one was above anybody else."

3) "Since our development function -- here at the Center for Research and Development in Higher Education -- is a type of teaching/learning process, our definition of it depends to a large extent on whose teaching/learning model we accept."

Set C

1) "The Maritime Museum was designed on the model of a ship."

2) "In setting up these youth clubs, they want to be sure to avoid both the parish model and the classroom model."

3) "Although the geocentric model for many centuries proved satisfactory to observers of physical phenomena, it eventually had to be replaced. Let's take a lesson from that!"

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